

TOWARDS A SOCIALIST
AGRICULTURE

TOWARDS A SOCIALIST AGRICULTURE

STUDIES BY A GROUP OF FABIANS

Edited by

F. W. BATESON

With a Foreword by

C. S. ORWIN, M.A., D.Litt.

Fellow and Estates Bursar of Balliol College and
sometime Director of the Agricultural Economics Research
Institute in the University of Oxford.

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FOREWORD

I SHOULD explain that I am not a Fabian. I have no politics where the land is concerned, and the opinions which I hold are based on long years of observation and experience, rather than on any political theory. I will support any group or party which will see rural life steadily and see it whole.

It is not so much the indifference of the general public which is the stumbling-block in the path of the land reformer, it is the sentimentality of those who think of the English countryside in terms of George Morland and John Constable; it is the *nostalgia* of those who deplore the evolution of industry and the decay of the craftsman; it is, I fear, sometimes, the desire of a small class to maintain its ancient privileges at the expense of the rest of the rural community.

For what are the facts of agriculture and rural life to-day? Farming is an industry competing on a world market with an organisation designed in the days when it had a monopoly of the home market; when unlimited labour could be bought for eighteenpence a day; when children were put to work at an age when nowadays they are still in the infant school; when the only power available for farming processes was man-power and horse-power; when all the discoveries of science and invention for increasing production and lightening toil were still unmade. Farming, to-day, is almost the largest industry in the country and yet it is the only one which has nothing to offer the ambitious young man with only his brains to invest, or to the skilled workman after he has qualified for an agricultural worker's statutory wage at the age of twenty. For it is still practised in the little fields and farms laid out a hundred years ago and more, for a peasant type of farming; it is still managed, in the main, by men who are qualified only on the technical side for their task, men, most of them, who have had no education but that of the elementary school, to whom all the information which science has now brought together to explain and to promote the growth of plants and animals is a closed book. It is a commonplace that the typical farm of Britain is the holding of 150 acres or so, offering neither scope nor opportunity for the investment of capital, for organisation, or for the application of technical skill.

Nor is it only the archaic layout of the farming unit which calls for adjustment. The equipment of the land is equally outdated. Most of the farm buildings were erected in the days when

NOTE

THE ESSAYS that follow were originally prepared for a Fabian Research Group, which was formed to study the problems of British post-war agricultural policy from the Socialist angle. The bias of the Group, as will be apparent to the reader, has been to coming down to the brass tacks. If the book seems unduly concerned with what is immediately practicable, with good farming rather than the good life, the fault is perhaps on the right side. The greatest English agriculturist of our time, Sir A. Daniel Hall, though not opposed to the Labour Party's agricultural programme, once described it—in his last book *Reconstruction and the Land* (1941)—as “not sufficiently appreciative of the technical points at issue, of the land and of farming itself as distinct from their social repercussions.” There is undoubtedly a measure of truth in that criticism. Here, therefore, is an attempt to argue the case for a Socialist agriculture not on social but on technical grounds. We believe as a Group that British farming cannot ultimately be justified unless its productive efficiency is increased—and that Socialism, in the sense of publicly planned, democratic co-operation rather than of national ownership, will alone provide the conditions under which such technical efficiency can be attained.

Like all publications of the Fabian Society, this book represents not the collective views of the Society but only the views of the members who prepared it. Its authors, however, have benefited from the suggestions and criticisms which the first drafts of these chapters, and of a number of other memoranda on related topics, have received not only from their fellow Fabians but also from many distinguished agriculturists outside the Fabian fold. Grateful thanks are due in particular to Lord Addison, Professor A. W. Ashby, W. P. Baker, A. S. Barker, J. E. Blundell, K. G. Brooks, A. H. Brown, A. E. G. Hawkins, E. F. Nash, Michael Pease and David Thomas. We have also to acknowledge the help given to us by Mr. Tom Williams, before he was appointed Minister of Agriculture, and by Mr. A. Holness of the National Union of Agricultural Workers.

F. W. B.

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The bitter thoughts have passed. This year new hope
Flooded my spirit when I saw the Pools,
Our war-time farmers' co-operatives,
Gathering new strength, like Antaeus, from the soil
They plough and disk, manure and drill so well.

This lovely evening, my shouting children
(All Brill was playing rounders in the garden),
The zooming efficient bombers in the sky
Conspired with meditations on the Pools
To a daydream of a New England, like William Blake's,

The manor houses gutted, hollyhocks
Self-sown upon the guilty staircases,
Where *liberté, égalité* were facts,
And from apocalyptic chariot descending
Fraternité bestrode the Aylesbury market.

F. W. BATESON.

THE PROBLEM STATED

By F. W. BATESON

(Statistical Officer to the Buckinghamshire War Agricultural Executive Committee)(i) *The Position at the End of the War*

THE FAVOURITE dream of the older English farmer was a "good war". A war could be counted on to fill the farmer's pockets. The experience of the Napoleonic Wars—when wheat rose from 40s. to over 120s. a quarter, and barley from under 20s. to over 60s.—had been amply confirmed by the World War of 1914-18. A war that *was* a war—as distinct from an "episode" like the Boer War—stimulated demand, while at the same time restricting supply. On the one hand, there was more money about in war-time, and people were hungrier because they were working harder; on the other hand, imported foodstuffs were scarce and expensive because of shipping risks, and British prices, undepressed by foreign competition, attained to new and exhilarating levels.

Such callous calculations were, of course, all a part of the capitalist game. As long as the essential criterion was the size of the individual's income, the English farmer could not be blamed for exploiting the misfortunes of his fellow-countrymen, whenever—all too rarely—the chance came his way. For, unfortunately for the farmer, the corollary of a "good war" was a "bad peace". The profits amassed during the years of war were dissipated in the subsequent, and normally much longer, period of peace. And so the politics of farming resolved itself into an attempt to recreate artificially in peace-time the conditions of war. The farmers' solution of the problem of British agriculture was to demand a permanent blockade—either by *tariffs*, which would artificially inflate the price of imported food, or by *quotas*, which would artificially restrict the quantity of foreign produce coming into the country.

The futility of such a programme had become apparent by 1939. In a primarily industrial country like Britain taxes on food can never be large enough to make a substantial difference to the profitability or unprofitability of agriculture. The most successful of the aids to farming introduced by the Baldwin-Chamber-

control in which almost everything grown by everybody occupying an acre or more of agricultural land was a matter of direction from above. And, on the other side, consumption was equally regimented by rationing. At the same time, these physical controls were reinforced by State price-fixing. The farmers were given guaranteed prices, and in the case of wheat, rye and potatoes, a guaranteed acreage payment was added which could be claimed even in cases of the complete failure of the crop. The implementation of the guarantees has proved expensive, but the inflated prices have not been passed on to the public, who have been protected by consumer-subsidies. The paradoxical result, indeed, of total war has been that the country has been better fed than in peace-time, and the farmers, for the first time in their lives, have obtained both prosperity and security.

Should the new system be continued after the war was over? That was one of the issues which the electorate was asked to decide at the General Election of July 1945. And the verdict of the voters has been emphatically in favour of the retention of the war-time system. The Labour Party, which came out for the continuance of the war-time controls, in addition to sweeping the towns, captured a surprising number of rural constituencies. The Conservative Party, which advocated a general return to the principles of *laissez-faire* and private enterprise, was correspondingly unsuccessful. Even the farmers, many of them, forgot their traditional loyalty to Toryism and voted for Socialism.

But the Labour landslide was a decision about principles. It left the working out of their practical implications to the new Government. Granted that *in general* the war-time controls are to be retained, what modification will the changed conditions and circumstances of the post-war world demand? Should not a more democratic procedure be infused into the process of regimentation? What long-term adjustments are needed in the system of land-tenure? Is the industry as efficient as one would like it to be? These are the questions that many agriculturists, non-Socialists as well as Socialists, are now asking themselves. Some of the answers, or possible answers, are ventilated in the following pages.

(ii) *Recent Policies for British Agriculture*

The pamphlets continue to pile up. Thirteen groups and organizations have now (1946) issued point-by-point proposals for the reorganization of this country's agriculture after the war. There have also been dozens of articles, leaflets, booklets and full-length books by individual agriculturists. It is probable, indeed, that never before in the long history of British farming have so

many people devoted such concentrated attention to the problem of its future as in the last two or three years. It is true that self-interest is not conspicuously absent from the proposals issued by most of the agricultural organizations, such as the National Farmers' Union and the Central Landowners' Association. The only really disinterested and objective discussions of the problem have been contributed by the technicians. (Sir Daniel Hall's *Reconstruction and the Land* and Dr. C. S. Orwin's *Speed the Plough* are outstanding examples of the rôle the scientist can play in the formulation of policy.) Nevertheless, it is fair to say that, for almost the first time, a serious attempt has been made even by the most vested interests to take farming out of its traditional realm of vote-catching, lobbying and wire-pulling, and face up to the rights of the consumers and taxpayers. On paper at least the argument is being conducted in terms of principles.¹

On the first appearance of some of these pamphlets some rather naïve surprise was shown that there should be a good deal in common in the various policies. The *Farmers' Weekly* published a table² to show "how remarkable a measure of agreement in principle has already been achieved". According to this table—which was subdivided under such headings as "nutrition", "subsidies", "marketing" and "control"—the National Farmers' Union, the Council of Agriculture, the Conservative and Liberal Parties, and the Group of Peers all wanted very much the same sort of agricultural set-up. A final column showed that the English policies were in general agreement with that endorsed by the United Nations Conference on Food and Agriculture held at Hot Springs in June 1943. But the coincidences are really largely verbal. In any discussion of a more or less technical problem the same phrases are bound to recur, though the meanings behind the phrases may not always be identical. There are, in fact, fundamental cleavages of principle underlying several of the recommendations that are common to most of the reports. Thus both the Liberals and the Conservatives want to retain the Ministry of Food as a sort of general imports board. But for the Liberals this is primarily to keep home-consumers' prices down, whereas the Conservatives see in it an instrument to keep home-producers' prices up. The Liberals are internationally minded. They are thinking in terms of world markets and the possibilities of economy by bulk purchase. The Conservatives, on the other hand, are thinking all the time of how to protect the English

¹ See H. A. Rhee, "Policies for Post-war Agriculture", *The Farm Economist*, vol. iv, 1943, who also deals with the references to agriculture in the "Reconstruction Reports" of other industries.

² November 5, 1943.

farmer from the impact of world competition, and what they really have in mind is a funnel through which all imported food must pass in the quantities and at the prices most convenient to English producers and distributors. The two philosophies are antithetical and contradictory, but the same machinery will suit them both.

There is also the difference of degree. At first sight it is indeed remarkable to find the landlords and their representatives solemnly putting it on record that failure to maintain recognized standards of good estate management must entail the taking over of the defaulting estate by the State. The special committee of the Royal Agricultural Society of England "appointed to consider post-war agricultural policy"—a committee which, as pointed out by an unkind critic,¹ did not contain one working farmer—unanimously recommended that "where a reasonable standard is not maintained", a national Food Commission "should have power to acquire land compulsorily, and either hold it or dispose of it". The Tory Reform Committee were equally explicit:

"As standards of good husbandry are necessary for the occupiers, so standards of good estate management are essential for the owners of land. The nation has a right to ensure that all land is put to the best use and that it is adequately equipped for its purpose. If the owner is unable or unwilling to fulfil these requirements, the Government should then have the right of compulsory purchase."²

And the Conservative Party itself, that last bulwark of the private property-owner, also accepted the "ultimate sanction" of dispossession: "we are agreed that the State should have power to dispossess, temporarily or permanently, an owner whose inefficiency has been clearly established".³

What more, it may be asked, could the most hard-hearted reformer demand? Every acre, it seems, is to be "put to the best use"; every farm is to be "adequately equipped"; and the inefficient landlord, who cannot or will not maintain "a reasonable standard", is to be bought out by the State. Only the most fanatical nationalizer would wish to quarrel with such a programme. It appears, indeed, to be identical with the Liberal

¹ Clyde Higgs, *Farmer and Stock-Breeder*, March 2, 1943. The eight members of the committee included two barons, four baronets, one knight, one commoner.

² *The Husbandman Waiteth: A Statement on Agricultural Policy on behalf of the Tory Reform Committee*, 1944, p. 8.

³ *First Interim Report*, p. 22. It is not clear, however, that the recommendations of the report have been officially endorsed by the Conservative Party.

Party's proposal to establish a Land Commission with the power to buy out "owners who are unwilling or unable to make the improvements in buildings, drainage, etc., required for good farming".¹ But the identity is, of course, again purely verbal. It all hinges on the interpretation of such words as "best", "adequate" and "reasonable". What a landlord considers a reasonable state of repair will often seem very unreasonable to his tenant. On the whole the experience of the War Agricultural Executive Committees since 1939 has not been very encouraging. It is true that by April 1945 they had entered into possession of 442,615 acres of badly managed land in England and Wales—i.e., 1.5% of the agricultural area—but a large part of this land was building land, commons, parks and other "rough grazings". What farms had been taken over had been generally from owner-occupiers or the humbler landlords, village shopkeepers, retired farmers, elderly ladies whose lodgings at a watering-place are paid by the rent of a few fields, *et hoc genus omne*. There were very few frontal attacks during the war on the larger estates, though many of these had become semi-derelict by 1939, and where a W.A.E.C. was sufficiently bold to contemplate drastic action, the Ministry of Agriculture often intervened. In spite of the shocking condition of many estates and the crisis atmosphere of a war, the Central Landowners' Association and their clients have on the whole got away with it. And one of the principal loopholes has been the necessity under the Defence Regulations for W.A.E.C. orders on landlords to be "reasonable". As things are at present, "reasonable" expenditure is related not only to the cash returns it may be expected to provide, but also to the landlord's financial status. What is a "reasonable" order on a wealthy landlord is now interpreted to be "unreasonable" on an impoverished one, even though the agricultural benefits are strictly equivalent.

(iii) The "Agreed Programme"

Nevertheless, the "unanimity" that filled Mr. R. S. Hudson, the Coalition Minister of Agriculture, with "hope" in a speech at Caxton Hall² was to a considerable degree a fact. When all allowance has been made for verbal identities as well as for the pious platitudes—e.g., the consensus of opinion that rural amenities and agricultural education and research need improving—it remains true that the points in which the pamphlets agree

¹ *Food and Agriculture. Report and Summary of the Liberal Food and Agriculture Sub-committee*, 1943, p. 19.

² "A number of organizations representing all political opinions have issued reports on their ideas of what our post-war agricultural policy should be. Obviously, I cannot discuss them now, but among these reports there is a unanimity that fills me with hope" (May 1943).

outnumber the points where they differ. Guaranteed prices, State control of occupiers and owners through County Committees working under the Ministry of Agriculture, increased output of milk and vegetables, the subsidizing of certain products "which, though not themselves economic, are indispensable to the carrying on of those that are" (*e.g.*, sugar beet, wheat, winter-fattened beef and mutton), the reform of distribution, better wages and prospects for the farm-worker—these are some of the very important matters about which there is virtually complete agreement. If the Liberal and Labour Parties' recommendations are excluded, the impression of "unanimity" is very striking indeed. The Conservative Party and the various agricultural, and theoretically non-political, groups and organizations all preach, though with minor differences of emphasis, what is obviously the same gospel. This is undeniable. The cynic may say that it is only what might have been expected, as so many of these pamphlets were, as a matter of fact, written by the same people. Thus Lord Cranworth, a Suffolk landowner and "hobby farmer", contributed to no fewer than four of the reports—the R.A.S.E.'s, the C.L.A.'s, the Council of Agriculture's and the Group of Peers'. And Lord Phillimore was almost equally omnipresent.

The meetings convened by the R.A.S.E. in 1944 under the chairmanship of a Conservative M.P. (Sir George, now Lord, Courthope) were therefore a natural development. The final meeting on May 5, 1944, which was attended by practically all the agricultural organizations in England, unanimously adopted a "draft of principles" which provides a convenient summary of what the industry would like its future to be:

"It is essential on National grounds that British Agriculture should be maintained in a healthy condition, sufficiently prosperous to ensure a stable level of prices which will yield a reasonable return to the producer and on the capital employed in the industry and a scale of wages sufficient to secure a standard of living comparable to that of Urban Workers.

"There should be a definite relation between the price level and the costs of production.

"Mixed farming should be encouraged in order to ensure soil fertility and regular employment throughout the year.

"In return for a guaranteed price level, all Owners and Occupiers of Rural Land must accept an obligation to maintain a reasonable standard of good husbandry and good estate management, and submit to the necessary measure of direction and guidance, subject to provisions for Appeal to an impartial tribunal."

The other proposals adopted included taxation "such as will make it possible to plough back into the industry capital necessary for the provision and upkeep of movable equipment". The signatories included representatives of the landlords, the farmers, the smallholders, the land agents and the surveyors. The farm-workers were represented by the Transport and General Workers' Union; the National Union of Agricultural Workers kept away, "not liking the smell of the meeting". However, on the same day the question whether the N.U.A.W. and the N.F.U. should "travel the same furrow" on post-war agricultural policy was put to the N.U.A.W. biennial conference at Blackpool, and was carried by a small majority.

The significance of this "agreed programme"—which must be taken in conjunction with the farm-workers' decision to "travel the same furrow" as the farmers—has not been fully realized. Essentially does it not mean that the three "partners" in agriculture—the landowners, the farmers and the farm-workers—have agreed to abandon their old internecine competition within the industry and to turn their united blandishments upon the consumer and the taxpayer? The landlords' main plank, the remission of Death Duties on agricultural land, is now endorsed by the N.F.U.¹ as "essential to the maintenance of satisfactory standards of estate management in post-war years". Similarly, the farmers' cry for guaranteed prices based on subsidies is echoed by the two landlords' trade unions, the Central Landowners' Association and the Land Union. And the workers' demand for "a good standard cottage, with all modern amenities", so forcibly put by Mr. E. G. Gooch, the N.U.A.W. President, at the Blackpool conference, has been backed by all the landlords' and the farmers' organizations. But the remission of Death Duties will not be felt by the tenant farmers or the farm-workers. It will fall upon the taxpayer, who will be called upon to make good in other ways the £2 million or so that Death Duties on agricultural land used to contribute to the Exchequer before the war. And the farmers' subsidies will not be paid, except indirectly and in microscopic amounts, by the landlords and the workers. The consumer will pay for them, especially the urban consumer, in higher prices for food, and the taxpayer, too, in so far as consumer prices are kept down by Government action. Similarly, the model cottages of the farm-workers will not be erected either by the landlords or the farmers, but by the local authorities; and in so far as their rents are uneconomic, it will be the taxpayer, through an Exchequer grant, who will foot the bill.

¹ *Agricultural Policy Report*, 1945.

This, then, is the situation as we find it to-day. On the one hand, the agriculturists, restored to self-confidence by several years of prosperity and the consciousness of a big job really well done; on the other hand, the general consuming tax-paying public, grateful for the food that has never failed to reach their breakfast-tables, and interested and impressed by the signs of new life that they see in the countryside. On the one hand, John Bull, restored to something of his mid-nineteenth-century prosperity and without the half-cringing, half-defiant look he had in the 1920's and 1930's, but secretly desperately worried about his future; on the other hand, John Citizen, now in a happy and expansive mood, ready to promise anything to anybody who helped to win the war. It is the perfect setting for the Confidence Trick. There is a very real danger, of which Socialists are not sufficiently aware, that the farmers' leaders, and possibly some of the farm-workers' leaders, will attempt to exploit a momentarily favourable situation by committing the nation to a long-term policy of subsidizing an inefficient agriculture.

(iv) *Farmers' Incomes*

The "agreed programme" was greeted by the Socialist Press with a certain amount of suspicion. An editorial note in the *New Statesman*¹ may be quoted:—

"We feel every sympathy with the demand of both farmers and labourers for a square deal; but we do want to know, from the 'consumers' standpoint, how much it is to cost, and, from the standpoint of foreign trade, how it is likely to affect the countries which are the principal buyers of our exports. Surely it is about time for someone to get down to *quantities*."

The fundamental "quantity", of course, is the annual income a farmer will require under the conditions of to-day (i) to farm more and more efficiently, (ii) to pay his workers a wage comparable to that earned in the towns, (iii) to pay his rent, rates and taxes in full. Unfortunately extraordinarily little is known about farmers' incomes. It is a deplorable fact that the farmers will not come into the open about what their actual incomes are or what they think they ought to be. There is general agreement that they are entitled to "a reasonable standard of living",² "a decent living",³ "a reasonable financial return"⁴; but the policy-makers have been oddly shy of translating these pious phrases into pounds, shillings and pence. What is a reasonable income?

¹ May 13, 1944.

² *Labour Party's Report*, p. 8.

³ *Conservative Party's Report*, p. 8.

⁴ *R.A.S.E. Report*, p. 4.

A recent textbook has stated that on a 25-acre market-garden, a 50-acre general farm and many medium-sized farms as well, you should earn altogether £200 to £250 a year.¹ This includes payment for the farmer's own manual labour, but does not include the interest he is entitled to expect on his working capital. The figure presupposes £3 a week as the agricultural minimum wage. The N.U.A.W.'s present claim for £4 10s. a week would mean the addition of another £78 to it—i.e., the small farmer is assumed to be able to earn £50 to £100 a year more than the ordinary farm-worker. This may seem a very modest return for the risks he takes with weather and disease, but it must be remembered that farming offers peculiar attractions to a certain temperament. The open-air life, the sense of being one's own master, the social prestige farming still carries in the village, the camaraderie of the market, the chance of making a bit by putting up holiday-makers in the summer—these are considerations that make an income of £200 a year on a farm a very different proposition from the same sum in the office or the factory. It is also a good deal more than many small farmers have been accustomed to earn. Farming of a sort has been carried on, and would still be carried on, with the anticipation of considerably smaller rewards than this.² But it has not been good for the farmer or the farm or the nation's conscience. If we are to secure the progressive increase of efficiency that will ultimately be the only justification for there being any farming in this country at all, then we must so arrange our price-system and our rents that the efficient small farmer can rely on earning year in and year out, an income at 1946 prices of not less than £250 a year, exclusive of interest on capital. How far were we from that before the war? What addition to the global income of the industry will be needed to secure it after the war?

A convenient *terminus a quo* from which to launch our enquiry is provided by Professor A. W. Ashby's summary of the receipts and expenses of 1,730 English farms in 1938.³ Ashby's table is in four columns—for farms with a mean size of 117, 174, 240 and 415 acres, respectively—and includes receipts, rent, bought-feeds, wages and expenses per 100 acres. The receipts do not include subsidies, and the value of the farmer's manual labour is omitted from the expenses. Converting Ashby's figures per

¹ V. C. Fishwick, *Good Farming*, 1944. This is in line with world figures. Half the farmers in the U.S.A. are still earning only \$750 a year or less.

² The East Midland small-scale farmers described by S. M. Makings (*The Economics of Poor Land Arable Farming*, 1944) were earning about 33s. a week between 1935 and 1939.

³ "Efficiency and Output in Agricultural Systems," *Journ. Royal Society of Arts*, November 11, 1942.

100 acres into receipts and expenses per farm, we get the following picture:—

Typical English Farms, 1938

	117-acre farm.	174-acre farm.	240-acre farm.	415-acre farm.
	£	£	£	£
Wages	412	479	533	880
Rent	192	240	300	398
Bought-feeds	523	573	626	888
Other expenses	511	789	1,039	1,204
Interest on tenants' capital ¹	56	77	96	149
Total outgoings . . .	1,694	2,158	2,594	3,519
Total receipts	1,828	2,241	2,554	3,602
Profit or loss	+134	+83	-40	+83

It is true 1938 was a particularly disastrous year for the larger farms, because of heavy falls in the prices realized for barley and sheep. On the other hand, the 1,730 farms in Ashby's sample were probably above the average as far as management goes, if only because these farmers were intelligent enough to realize the value of keeping detailed accounts. On the whole, therefore, this table can be taken to provide a fairly representative conspectus of the general profitability of English farming before the war, though it exaggerates the losses on the larger farms. (As subsidies are excluded, the profit and loss figures do not represent the *actual* incomes or losses made by the farmers.)

The next step in the inquiry will be to ask the following questions:

What increase in their receipts would these four farms have required:

(i) To provide the farmers with a reasonable income (*e.g.*, £200 for the first 50 acres and £1 for each additional acre)?

(ii) To pay a minimum wage of 70s. (roughly the equivalent at 1938 prices of £4 10s. to-day)?

(iii) To pay an increased rent sufficient to pay the interest on improved water supply, new buildings, etc. (assumed to be 10s. per acre)?

(iv) To increase the tenants' capital by 50%, so as to enable them to carry more stock, implements and machinery (assuming that the increased mechanization would enable the same labour to handle more stock)?

¹ Omitted by Ashby. Here assumed to be 4% on an average valuation of £12 per acre for the 117-acre farm, £11 for the 174-acre farm, £10 for the 240-acre farm, £9 for the 415-acre farm.

The following table is an attempt to answer these questions:—

Ideal English Farms, 1938

	117-acre farm.	174-acre farm.	240-acre farm.	415-acre farm.
Reasonable profit . . .	£ 267	£ 324	£ 390	£ 565
Reasonable wages . . .	824	958	1,066	1,760
New rent . . .	250	328	420	608
New interest on tenants' capital . . .	84	116	144	224
Bought feeds . . .	523	573	626	888
Other expenses . . .	511	789	1,039	1,204
Total outgoings . . .	2,459	3,688	3,685	5,249
Excess over receipts . . .	631	847	1,131	1,647
Percentage increase in re- ceipts needed . . .	35%	38%	44%	46%

This table must not be examined too closely. It seemed simpler, for the purpose of demonstration, to assume that there would be no change in the bought feeds or the other expenses, though in fact no doubt there would be changes. Such qualifications and corrections would not, however, seriously affect the real question at issue—viz., the approximate increase in receipts needed to make farming a reasonably paying proposition. The 35–46% increase which the table works out at is less formidable than might have been expected.

It is clear that this 35–46% gap between the prices ruling on the world market in 1938 and the receipts needed to make these farms pay could be bridged in several ways. Mechanization and improved equipment should make it possible to increase considerably the volume of produce sold off the farm. The war-time experience has been distinctly encouraging. All over Britain exceptional farmers have been doubling their peace-time output without any increase in the labour force, and there is no doubt that the average output per man is very much higher than it was in 1938, though the exact figure is hard to estimate. Total production up to the end of 1942, calculated both in calories and animal and vegetable protein, was reported by the Ministry of Agriculture to show a 70% increase over the pre-war figure.¹ On the other hand, Mr. Hudson's statement at Leeds in December 1943 that the gross value of the agricultural output of England

¹ According to a reply given by Mr. Tom Williams in the House of Commons in August 1943, "Two calculations were made, one in calories, the other in animal and vegetable protein. Both showed a net increase in the neighbourhood of 70%."

and Wales was then of the order of £600 millions, meant that there had been an increase, measured by fixed money values, of just about one-third.¹ The relevance of both these figures to output per man is complicated by the fact that a large number of small-holders were only part-time agriculturists before the war. These men, reinforced by the conscientious objectors, land girls, Italian prisoners, W.A.E.C. technical staffs, holiday workers and schoolboys, more than make up for the decrease in regular adult male workers since 1939, but how much more it is very difficult to say. The increase in output per man is probably in the neighbourhood of 20%, though, as a part of this is due to overtime that would not be conceivable under normal conditions, the permanent gain may not be as much as this. A real increase of about 15% per man-hour is perhaps the most it is possible to ascribe to war-time reorganization and mechanization. There is therefore still a gap of 20-31% between the receipts our four typical farms may expect to obtain in the open market and the amounts they require to pay their way. Is there any prospect of closing this gap by still further increases in efficiency? Or by a reduction in distribution costs? Or by raising world prices? Or is the old panacea of subsidies the only realistic solution, after all?

It must be emphasized that the figures quoted in the preceding paragraphs are merely tentative approximations. They will have served their purpose if they have helped to recall the hard economic facts to which the "agreed policy" of the agricultural interests turns a blind eye. In the long run no country which has been accustomed to import most of its food will be content to pay substantially more for the equivalent home-grown product unless it has to. Shortage of foreign exchange or the demands of a starving Europe may temporarily compel this country to grow most of its own food, but such conditions are not likely to last. When they have passed, the test will be relative efficiency, and the only subsidies it will be wise to consider even to-day, when the shortages are still upon us, are subsidies directly designed to encourage efficiency. The other subsidies are too vulnerable politically. Farmers still speak of the "betrayal" of 1921, when the guaranteed prices laid down in the Agriculture Act of the preceding year were abandoned. But there is another side to the "betrayal". If the farmers were let down in 1921, it was the consumers who had been held to ransom in the years 1914-20, when the farmers had the whip hand. It was tit for tat. And in a democracy like Britain, with a large urban population, the last word must always be with the consumer.

¹ See R. S. G. Rutherford, *Bulletin of Oxford Institute of Statistics*, February 5, 1944, p. 22.

This section must close on a question mark. The "agreed programme" was an invitation to the taxpayer to subsidize agriculture, because other industries get subsidies, because there may be another war, because farming is a specially valuable way of life, and so on. It was also an invitation to the farmer to stick in his old rut. The emphasis in all the policy pamphlets on a "balanced agriculture" and "mixed farming" means the continuation of the traditional many-departmental non-specialist small-scale farm. In a world in which progress appears to be conditional on specialization, farming alone is to be "mixed". Is there a connection between the two items in the "agreed policy"? Is it perhaps necessary to subsidize agriculture just because it is non-specialist? Will the 20-31% gap be closed only if the whole system of British agriculture is reorganized? Is the fullest efficiency obtainable only by some sort of agricultural revolution?

(v) *New Capital*

One of the assumptions of the foregoing discussion was that the occupier may be expected to have to meet additional rent of 10s. an acre to reimburse his landlord for improvements to buildings, the laying on of mains water, etc. This is another fundamental "quantity" to which the policy-makers have preferred not to put a figure. It is agreed even by the landlords that the capital re-equipment of our farms is grossly overdue, but the essential factual basis is still missing. It was obvious before the war that things were not going too well, that buildings were falling out of repair, that ditches were being allowed to fill up, and that hedges were getting gappy or overgrown. But nobody knew how far the process of dereliction had gone or how widespread it was. That gap in our knowledge has now been filled. The National Farm Survey, which the County War Agricultural Executive Committees began in July 1940, has now been completed, and the essential facts are now available about every farm and every farmer in the country. The national and county summaries have still to be published, but their main tenour is already known.

What the inspecting Committee Members found has been described by one of them.¹ In this part of the Midlands, 16,000 acres in extent, every field of which was inspected, twitch or couch-grass was found in almost all the arable fields. The grassland was generally poor, and many fields had been so badly trodden by cattle that "it was physically painful to walk over

¹ A. Bridges, "Impressions of the National Farm Survey in a Midlands County," *Estate Magazine*, March 1941.

them". No doubt modern machinery would have made it possible to farm the arable land better, but "the capital was not available, nor would it have been economical to employ it on such small areas". Hedges and ditches were all grossly neglected, and sheep could no longer be kept on some farms because the fences were not stock-proof. The number of farm-workers had been reduced to the bare minimum necessary for looking after the stock and cropping the land. On many farms there was only one man per 100 acres; the average was one per 75 acres. Few of the farms were well laid out, most having the farmsteads in the village, the smaller farms being the worst. "We found that the farmers themselves had created the conditions by paying high rents for odd pieces of land as they came into the market for letting." The buildings were not of a high standard structurally, and were inconvenient for the efficient working of the farms. The landlords had apparently resigned themselves to being mere rent-receivers. They and their agents only visited the farms for specific purposes. "Regular visits for the purpose of walking over the farm to inspect and record the condition of the fields, the hedges, the ditches and so on do not seem to be a general practice."

There were some farms in most districts where things were a good deal better than this, but the general impression that this picture creates is confirmed by competent observers all over the country. Until the Farm Survey was initiated no one had realized how widespread the dereliction was. We had got into the habit of thinking that the progressive farms, which got into the illustrated papers, were typical. Figures showing the rapid increases in output per man since 1920 induced a certain complacency. It was not realized that these increases were at least partly due to the discontinuance of the essential maintenance work on farm buildings and roads, drainage, fences, liming, etc. What estimates were made as to the amount of re-equipment or repairs necessary have proved to be totally inadequate. In 1925 the Ministry of Agriculture estimated that there were only 650,000 acres of agricultural land in England and Wales that were in need of drainage. Some ten years later the National Farmers' Union obtained estimates from its branches of the acreage needing draining. The total for England and Wales was only 1,755,000 acres. Of course the filling-in of ditches and the blocking of drains are a progressive affair which each year's delay makes worse. Nevertheless the fact that drainage operations benefiting some 5 million acres have been completed since 1940 makes it clear that the pre-war estimates must have been grossly optimistic.

It is very difficult to make a monetary estimate of the re-equipment needed to bring the general level up to that of the best farms. Lord Addison told the House of Lords recently that the provisional estimate given him when Minister of Agriculture in 1931 of "the minimum requirement to enable the farms to be properly farmed" was £250,000,000. Major W. H. Marriott, the late chairman of the Montgomeryshire W.A.E.C., has estimated that the figure for Montgomeryshire alone would now be £18,000,000, and for England and Wales as a whole £600,000,000 to £1,000,000,000. Per acre these estimates work out at a capital cost of something between £10 (the 1931 figure, when the price-level was at least 50% lower than it is to-day) and £70 (the figure for Montgomeryshire)—*i.e.*, 10s. to £3 10s. per annum at 5%. Some confirmation of these very formidable figures was provided by the last Minister of Agriculture. Up to the end of January 1943, Mr. Hudson told the House of Commons, a 50% Treasury grant had been approved on 97,867 drainage schemes—subdivided into mole-draining, tile-draining, farm ditches and small arterial drains—which were estimated to benefit 4,065,518 acres and to cost £7,131,881. It is probable that one-fifth of the more urgent field-drainage work had been completed by that date. On this basis drainage alone will cost the industry over £35,000,000. And there are also large areas where additional mole- and tile-draining would be beneficial, though they cannot be said to be essential for the cultivation of the land. There are also the main-river drainage schemes, on which work amounting to £7,000,000 was postponed until after the war, and additional work costing up to £10,000,000 is now expected to be necessary.

Some details about farm water-supplies have also been made public. Mr. Hudson told the House of Commons in 1944 that 6,200 water-supply schemes had been approved for grant aid since 1941, at an estimated cost of £1,125,000. The average cost of a water scheme was therefore about £200. But there are 180,000 farms above 5 acres in England and Wales without piped supply to the farm buildings. Farmhouse and buildings can sometimes be dealt with under the same scheme. Probably 300,000 schemes would meet the case, therefore, at a cost of some £60,000,000. This, however, is only for the house and buildings. To water all the fields that are likely to require piped supplies, if we are to persevere with ley farming, would probably need another £60,000,000.

The report of the Committee on Farm Buildings has now been published. Some sort of a rough estimate of the expenditure needed can be obtained if we assume that, on the average, every farm needs £500 spending on the buildings and £250 spending on the

farmhouse. There are some 400,000 separate holdings in England and Wales, though the number of separate agricultural enterprises is only 250,000. Assuming that it will only be necessary to spend the £500 on buildings and the £250 on the house on 200,000 farms (approximately all the holdings over 25 acres), the total sum required will be £150,000,000. No doubt roads, gates, fences, sewerage, the laying on of gas and electricity, etc., will amount to another £50,000,000.

Our rough estimate of the cost of the capital improvements needed therefore runs as follows:—

Drainage	£52,000,000
Water supplies	£120,000,000
Farm buildings	£100,000,000
Farm houses	£50,000,000
Miscellaneous	£50,000,000
TOTAL	£372,000,000

This figure is for England and Wales, and should be regarded as a minimum only. Considerably larger sums could with advantage be spent on drainage, roads, buildings and farmhouses.¹

(vi) *The Agricultural Depression*

What were the causes of the agricultural depression? The traditional *excuse* of the N.F.U. leaders, the “unfair” competition of foreign countries with lower wage-rates and/or rents, was a symptom, not a cause. It is abundantly clear now, as a result partly of the findings of the nutritionists and partly because of the examples of Denmark and Holland, that British agriculture never need have lacked a market. The industrial North and London could have absorbed all the milk, bacon, eggs, vegetables and fruit that the farms of this country could have produced. Instead, however, the farmers persisted, or so it then seemed, in the face of all the facts, in trying to grow wheat to compete with North America, to produce beef to compete with the Argentine, and

¹ In the House of Lords debate on the White Paper on Employment Policy in July 1944, Lord Melchett is said to have “remarked that agriculture was under-capitalized and that up to £1,000 million could be spent before there was any question of saturation”. Dr. Carslaw has estimated that only 5% of our buildings are adequate for modern requirements and that £500,000,000 will be required to put this right and another £500,000,000 for equipment, etc. These seem to be just guesses. Mr. R. S. Hudson, who will have had access to the best sources of information, estimated that “to get maximum production in the next critical years of world food shortage, we may need new capital investment of the order of £200,000,000” (Speech at Manchester, March 9, 1945). Mr. J. L. Davies, who is in a similar position, puts the cost of buildings and water supplies needed on dairy farms only at over £100,000,000 (*Chemistry and Industry*, January 8, 1944).

butter and lamb to compete with New Zealand. It was not prices or markets that were at fault, but the relative inflexibility of the farming system. Instead of adapting their production to the requirements of the market, the farmers kept on, with a growing hopelessness, in the rut they had inherited. Why? What was behind this apparently suicidal obstinacy?

This is not the place to attempt a detailed answer. It is essential, however, to sketch the outlines of the problem, because unless this is done the futility of the patchwork solutions now proposed by the Conservative Party and the farmers' leaders will not be fully apparent. In a fumbling, uncertain way British farming has been trying to *adapt* itself to the new international situation. But mere adaptation is not enough. Trimming and patching of the old bottles will not do. What is required now is the planned reconstruction of the whole farming system.

The so-called Golden Age of English farming—the period roughly from 1850 to 1880—was the crowning achievement of a planned agricultural revolution. Even to-day the significance of that revolution is not fully understood. Essentially it was the creation of a farming system, with its appropriate systems of land-tenure and distribution, specially designed to utilize the contemporary facts of technical progress, capital availability and consumer demand within the general framework of traditional British rural society. The medieval system of the communal open fields had succeeded in making each parish virtually self-sufficient. What division of the labour there was—*e.g.*, the village smith, the village miller, the village wheelwright—was within the parish. The growth of the towns, especially London, then superimposed upon the structure of parish self-sufficiency a larger structure of national self-sufficiency. Improved technique, the transition first of all from a two- to a three-field system, and later, with the introduction of turnips and clover, to the total abandonment of the uncultivated fallow, *plus* the gradual reclamation of the “wastes” surrounding each parish, had enabled the countryside not only to feed itself, but also to export its surplus to the towns. In the eighteenth century, however, the growth of population began to exceed the country's food-producing capacity, and the Napoleonic wars, with the only other avenue of escape (*viz.*, importation) gone, found the country faced with a crisis and the possibility of starvation. The crisis was met by the speeding up, through State intervention with Enclosure Acts, of the slow process of transition from the extensive methods of the open fields to the relatively intensive cultivation of the compact isolated farm primarily directed to food-production for sale rather than for self-support. The leaders in this

change-over were the landowners, especially the new generation of landlords who had made money in the towns by commerce, which they were anxious, partly for reasons of prestige and partly because land was then the only gilt-edge investment, to put into their country estates. Undeterred by the expenses of enclosure and the cost of the new farmhouses and buildings which followed enclosure, the Bedfords and the Cokes and their humbler followers invested millions of pounds in their farms. And the enormous growth of the urban population in the first half of the nineteenth century and the rising standard of living confirmed and justified their courage. Their heirs and successors continued the process, vast sums were sunk in the tile-drainage of the heavier soils, more buildings were built, the last enclosures were completed and English farms took on the form they have retained virtually intact until to-day.

The farmers of the Golden Age concentrated on the staple agricultural products. Wheat was the backbone of the system, but beef and mutton were beginning to threaten its primacy. The introduction of root crops and clover into the rotation had made it possible to keep a large head of livestock in good condition through the winter, and the great pioneers, Bakewell and the Collings and the rest, had developed improved breeds to exploit the growing demand for meat. Their fourth staple was malting barley. Beer had always been the national drink, and the inroads of gin were more than counterbalanced by the growth of population.

The Norfolk four-course rotation—turnips, barley, “seeds” (*i.e.*, rye-grass and red clover mixed, or red clover alone), wheat—was the key to the agricultural revolution. Half the crops were fed to livestock, the other half were sold off the farm, though the straw, of course, remained (the wheat straw to be trodden by the cattle during the winter into farmyard manure, and the barley straw providing useful supplementary cattle-food). Though exact comparisons are impossible, the new system probably resulted in at least a 100% increase in the human food produced per acre over the open-fields average. But whereas open-field farming required little initial capital expenditure beyond a wooden plough, a cart and a team of oxen, the Norfolk system demanded a high degree of capitalization. The basis of the system was the compact, roughly circular holding of 100 to 300 acres with the farmhouse and buildings in the centre, and about half the land in large arable fields and the other half in smaller fields of permanent grass. The greater number of these holdings, though generally superimposed upon land that had been previously farmed, were new creations. The new farming meant a

completely new start. Buildings had to be erected to thresh and store the grain in, and to house both the great Shire horses, which had ousted the slower oxen, and the cattle to be fattened on roots in the winter. A farmhouse was needed for the farmer, so that he could be on the spot to deal with any crisis that arose, and a cottage or two for his stockmen. Fields had to be laid out, which involved planting hedges, digging ditches, putting in one or two gates, and very often the laying of a complete system of drains. Roads had to be made. And in the grass fields ponds or some other water-supply had to be arranged, so that the cattle could graze them.

The Norfolk system was built up on the *tabula rasa* created by Enclosure. In its pure form it was never an adaptation of pre-enclosure farming. What compromises were attempted between the two systems—*e.g.*, the sowing down of the open fallow field to a one-year clover ley—always came to grief sooner or later. This inflexibility, the fact that a new-style farm could not grow out of an old-style farm, is common to most farming systems. Each has evolved, or been designed, to meet a particular production-consumption situation, which has meant a particular arrangement of land and buildings. A change to a new system means another arrangement of land and buildings. But agricultural land and agricultural buildings are awkward physical facts, which do not lend themselves to easy or instantaneous rearrangement. It is simpler to scrap a farm-building than to move it. It is simpler to redraw a farm's boundaries than to reshuffle the existing fields and hedges.

So when the competition of virgin soils, cheaper labour and more favoured climates initiated the agricultural depression of the 1880's, readjustment was to prove difficult. A very large amount of capital had been invested in the mixed post-enclosure farms. To transform them into the specialized milk, bacon, poultry, vegetable, or fruit farms, which the logic of the situation demanded, would have meant destruction on an enormous scale before the new construction could begin. And, in any case, the capital was no longer available. The urban investor believed, quite rightly, that he could do a great deal better for himself in a Mexican mine than in an English farm. Moreover, the people with money were no longer interested in the technique of farming. The "improvers" had ceased to be the aristocracy and the landed gentry, with each country seat an oasis of agricultural progress, and the technical lead had passed to tenant farmers and the scientists. It was inevitable that a compromise patchwork should be attempted.

The most general compromise was a mixed system, based on

milk instead of wheat. The barns and bullock-sheds were converted into cow-houses. Several of the arable fields were sown down, and the "dual-purpose" cow grazed those nearest the buildings, its male offspring after castration slowly fattening themselves in the more distant ones. More oats were grown and less wheat; the root acreage decreased, as it became too expensive to fold sheep, which passed more and more on to the permanent grass. A few fruit trees were planted, and the pigs and poultry multiplied. Cheap imported feeding-stuffs made it possible to reduce the area devoted to fodder crops, and many farms, especially the all-grass farms of the Midlands, became too large for the livestock there was room for in their buildings, the consequence being the gradual invasion of the outlying fields by thorns, rushes and hassocks, while the nearer fields were brought to a very high state of fertility that was never fully utilized.

This was the position when the repeal of the Agricultural Act ushered in the depression of the 'twenties. Mixed farming had become muddled farming. The insurance policy of having as many strings to your bow as you possibly could had resulted in a relatively low standard of efficiency in every department. In the meantime the process of capital depreciation had continued. Tenants stopped worrying their landlords about the repairs that never got done; landlords, with their powers shorn by a series of Agricultural Holdings Acts, no longer saw to it that their tenants kept the ditches cleaned and the hedges layered. The farmers' sons and the younger farm-workers, especially those with energy and brains, emigrated or went into the towns. By an inverse poetic justice, the better, it seemed, you farmed the worse you prospered. Ranching paid a better dividend than liming and slagging your grass or reseeding with the new "pedigree" strains. Cynicism and a feeling of utter hopelessness descended upon the farming community. In the general corruption the only thing left to do seemed to be to form a body to trumpet the farmer's grievances and to mobilize his voting power.

The National Farmers' Union is essentially a political pressure group. (It is only incidentally a bargaining body to represent the farmers against the landlords or the farm-workers.) Its weakness is that it has no consistent long-term agricultural policy for which to press. Between 1932 and 1939 the N.F.U. had the ear of the Government. In 1939, indeed, its President, Sir R. Dorman Smith, became Minister of Agriculture. The various experiments in State aid to agriculture, from the Wheat Subsidy to the Fat Cattle Subsidy, were adopted at its suggestion and with its co-operation. But these measures were short-term devices

designed to counter particular emergencies, and the only coherent policy that they add up to is the producer-control of prices and distribution unanimously adopted by the Empire Producers' Conference at Sydney in 1938. Their scope, however, was so extensive that it was possible to say that in 1939 "farming in Great Britain had become in practically all its activities an assisted industry with controlled prices, no longer determined by the world market but sustained by contributions, direct or indirect, from the Exchequer which in gross amounted to about one-fifth of the total value of the output from the land".¹ The glorious agricultural revolution of the early nineteenth century had become the twentieth-century's poor relation, eking out a discreditable existence on doles and blackmail.

(vii) *The Beginnings of a Socialist Agriculture*

The fact must be faced that the old agriculture is bankrupt. Like its predecessor, the open-fields agriculture, though it served the country well in its time, it has now outlived its usefulness. It is no longer able, for one thing, to give the consumer what he wants. The housewife of the 1930's wanted cheap, clean, disease-free milk; the only way she could get it was out of a tin. She wanted high-quality bacon, beef and lamb, and so uncertain and unreliable was the English article that the only way she could be sure of getting what she wanted was by buying Danish, Argentine and New Zealand imports. As we have seen, too, the old agriculture no longer interested the private investor. And its system of land tenure made it impossible to call in the State to re-capitalize it, because it had been discovered that *any* assistance given to farming sooner or later found its way into the landlords' pockets by way of increased rents. Worst of all, the old agriculture was not able to avail itself, until the war came, of technical progress.

But war is an effective forcing house of agricultural technique. Just as the Revolutionary and Napoleonic Wars stimulated the process of enclosure, so the Second German War and its aftermath are enabling us to see the outlines of a new kind of agriculture. Then, as now, under the impetus of high prices and a crisis atmosphere, discoveries and machinery, which had previously been restricted to a few progressive farms, came at last, and often quite suddenly, into general use. It will be sufficient to list some of the principal items:—

Rotations:

1793–1815.—Norfolk four-course, Wiltshire eight-course and

¹ Sir D. Hall, *Reconstruction and the Land*, 1941, p. 15.

other rotations, including clover and roots, superseded the two crops and a fallow of the open-fields system.

1939-45.—Three-year and longer grazing leys take the place of one-year "seeds", and so render obsolete the two-compartment farm of permanent grass fields and permanent arable fields.

Machinery:

1793-1815.—Drills, horse-hoes, cultivators, rollers, horse-rakes, chaff-cutters came into general use.

1939-45.—Combine drills, disc harrows, combine harvesters, sweeps, milking machines, robot planters, mechanical excavators, crop-dryers come into general use.

Power:

1793-1815.—Horses superseded oxen for all draught purposes; the Shire horse was bred for the heaviest work.

1939-44.—Tractors supersede horses for most farm work; the crawler tractor comes into general use for the heaviest work.

The old farming revolved round corn and roots; the new farming is likely to be based on grass-production and market-gardening. Its principal products will be milk, eggs and vegetables. This is because the aim is no longer national self-sufficiency, but international self-sufficiency; in the words of Resolution XV of the Hot Springs Conference, "a secure, adequate and suitable supply of food in every country". And this can be obtained only if we allow "the inherent natural and economic advantages of any area" to "determine the farming system adopted and the commodities produced in that area". Instead of bolstering up by quotas, tariffs and subsidies the production of food that can be grown more efficiently elsewhere, we must now concentrate on the foods that our soils and climate enable us to produce as efficiently or more efficiently than other countries. And just as Acts of Parliament were needed to effect the transition from the strip-farming of the open fields to the compact isolated farms of the Norfolk system, so the State's intervention is needed to direct the new transition. The first stage is national control, the second stage will probably be national ownership. For whereas the capitalization of the Norfolk system was a private affair, once the process of enclosure was completed, the provision of capital under the conditions of to-day must clearly become the State's responsibility, if only because there is nobody else to provide it. Ultimately it is possible, indeed, that all farming operations will be directed by the State. For the moment, however, it is clear

that, though the State is likely to supersede some, if not all, private landowners, most of the actual farming will be carried on by tenant farmers, with the only immediate difference that the rents are paid to the State instead of to the landlord.

The question of incentive remains to be discussed. The Enclosure Movement, though engineered by the landowners, was accepted by the larger farmers, because it provided the agricultural ladder with more rungs at the top. Under the open-fields system the energetic ambitious man could not get very much farther than his lethargic, stick-in-the-mud neighbour. The system had as its *raison d'être* the provision of enough food to prevent a family from starving, and it was difficult to adapt it to the making of money on a large scale. The post-enclosure set-up, on the other hand, brought the farmers into line with the capitalists of the towns. Instead of the diffused sufficiency of the bare necessities obtained by the co-operative methods of open-fields farming, the Norfolk system tended to depress one end of the social scale in proportion as it exalted the other. It was the gospel of the classical economists, "each for himself, and the Devil take the hindmost"; a comfortable doctrine for the successful farmer, though less satisfying to the farm-worker, whose real wages fell lower than they had been since the Black Death. The get-rich-quick philosophy is always popular in an expanding economy. In the early nineteenth century, with the prodigious growth of the urban population, the English farmer could not go wrong. However much he produced, there was always a market for it. And the tradition still survives, though the insatiable market disappeared sixty years ago. The older type of farmer is still an old-style capitalist in his bones. With every war hope springs eternal of the return of the good old days when wheat stood at 100s. the quarter. But his sons have not inherited his faith in competitive capitalism. Their minds have been turned for some time to organized restrictionism. They belong to the Marketing Boards generation. They prefer the certainty of a small steady income to the precarious gamble of the market. There is in them, too, a spark of idealism, a real readiness to co-operate with their fellows in a service to the community. They have proved far more valuable members of the W.A.E.C. District Committees than their noisy, sentimental seniors. The existence of such men—quiet, sensible, business-like fellows, without, perhaps, the picturesque phraseology of the old-style farmer, but without his superstitions and brutality, too—makes the development of agricultural co-operation, tried so often in this country, but always hitherto in vain, a relevant and exciting possibility. With the discredited submergence of the competitive

philosophy of nineteenth-century capitalism the wheel has come full circle to the rural communism of the open-fields village. Those of us who are now associated with the County Committees, and who know something of agricultural history, sometimes find ourselves rubbing our eyes. The Committees are now issuing the same orders as the jurors of the manorial courts issued year after year from the time of the Saxon settlements until the enclosures—to so-and-so to cut his thistles, to such-an-one to mend his fences or to clean his ditches, to hurry up with his mowing or to reduce the number of his sheep. In matter, if not in manner, the minutes of a Cultivation Sub-Committee are often identical with the rolls of a Court Baron. And it seems likely that this, or something resembling it, will be the framework of the Socialist British agriculture of the immediate future, neighbours working together as neighbours in those activities where technical progress has made co-operation essential, while each continues on his own with those branches of farming where the small unit is still the best.

(viii) *The Planning of a Socialist Agriculture*

If the course of our argument so far is solidly based, the conditions that we may expect to emerge in the years immediately following the war will be exceptionally favourable to the growth of a genuinely Socialist British agriculture. The time is ripe for a democratic co-operative agriculture, which will be State-directed and State-financed, but in which the day-to-day decisions will be taken by the elected local representatives of the working farmers and farm-workers. Such an agriculture could provide this country with the protective foods which are urgently needed by the lower-income groups at prices within the reach of all. It could utilize the findings of agricultural research, so that the efficiency of the industry was enormously increased and adequate incomes could at last be assured to both farmers, farm-workers, technicians and research workers. It could guarantee to tenant farmers a security they have never known. It could also provide farm-workers with a ladder by which the more enterprising could be certain to climb to posts of greater and greater responsibility.

But the essence of a Socialist agriculture must be that it is planned. The State is justified in intervening only if it knows where it is going and what it wants to do. The object that we have set ourselves in the following pages is to investigate somewhat more closely than has hitherto been possible the technical implications of the transition from a capitalist to a Socialist agriculture. We do not profess to offer any cut-and-dried

formulas. The exact shape of the British agriculture of 1960 must depend on many factors which are still unknown. All that we are trying to do is to discuss some of the problems that Socialist Ministers of Agriculture find themselves confronted with, and to suggest a number of ways in which they might be wholly or partly solved. Questions of marketing and of distribution are being left to a second volume. Our concern here is with "farming" in the ordinary sense of the word—*i.e.* agricultural production—and, though we may occasionally cast prophetic glances at the fully socialized farming of the more distant future, our main business is with the planning of the transitional period when Socialism is in process of introduction.

CHAPTER TWO

THE INTERNATIONAL FRAMEWORK

By P. L. YATES

(Food and Agriculture Organization, Washington)

(i) *The Period of Scarcity*

THE HUNGRY 'Forties! That is what historians of the future will call the period in which we now live: no doubt they will compare it with the Hungry 'Forties of the nineteenth century.

World War II has brought food scarcity to almost every part of the world. It has, of course, been most acute in the battle zones. In Europe every country has introduced a rationing system; in many the quantities of food distributed have been no more than half an adequate diet measured in calories. In Poland and occupied Russia there has been actual famine. Moving across to the other side of Asia we find grave food shortages in many parts of war-tormented China. In India there has been a disastrous Bengal famine occasioned by bad harvest and cessation of rice imports, coupled with growing consumer purchasing-power. In the U.K. food supplies, though never actually short, are limited, and even in the U.S.A. and the food-exporting British Dominions some degree of rationing has been necessary.

We have found, too, that scarcity did not cease when the guns ceased firing. On the contrary, it became worse. Immediately Europe was liberated she needed relief on a gigantic scale. It has been provisionally calculated that the Continental allies alone needed 45,850,000 tons of food, seeds, fuel, clothing, raw materials, machinery and medical supplies in the first six months after

liberation. In addition, there were certain minimum emergency requirements for enemy countries; moreover, Russia's requirements are not included in these figures.

The United Nations Relief and Rehabilitation Administration (UNRRA) has undertaken to organize this vast venture in international assistance. Week by week it revises requirements' estimates as new information comes to hand, and day by day it anxiously scours the world's markets for food and other needed materials.

Admittedly the complete programme of relief cannot be fulfilled: the supplies simply do not exist. The era of "surpluses" came to an end long ago in the third year of the war; today it has been found extraordinarily difficult to accumulate even the modest stock-piles of meat, fats and sugar which the military have needed for the invasion of southern and western Europe. A little more food, it is true, could be got from the Argentine when shipping can be set free to lift it, but Argentine in exchange needs coal which cannot easily be supplied at present.

Is there any chance of expanding livestock production overseas above its present level? At present the chief limiting factors are shortage of man-power, shortage of machinery and shortage of fertilizers. It will not be easy to improve the supply of any of these either in America or the British Dominions. Indeed, far from hoping for expansion, the Dominions are doubtful whether they can prevent production from falling and are asking for price increases to check this trend. The U.S.A. output is already falling. No doubt UNRRA, through the Combined Boards, will approach all the exporting countries with a view to enlarging their production programmes and will be prepared to pay a high price having regard to the urgency of the needs, but it is doubtful whether these exhortations will bear fruit in increased production until two or three years from now.

The general picture, therefore, will be one of scarcity all over the world for most of the important foodstuffs. Every surplus ton of food that can be produced anywhere will be quickly snapped up for relief somewhere, and, even so, a large proportion of the needs must go unmet. Evidently hunger will not be banished till near the end of the 'forties.

It is against this background that Britain will have to arrange her food supplies and her agricultural production in the immediate future. Without doubt she will have to continue rationing most foodstuffs until the world situation improves; she will also need to maintain her own agricultural production almost at the level of the war years. In fact, conditions will continue to be so similar to those of war that the introduction of a long-term post-

war policy will not for a time be practicable. This has been recognized by the Ministry of Agriculture in its four-year plan, which extends in main outline the war-time production programme until 1947. This plan envisages continued concentration on crop production with prices at or near their present levels. This policy has not been a result of deliberate choice: it has been imposed upon us by world scarcity.

(ii) *After Scarcity*

Gradually the world food situation may be expected to improve; on the one hand European agriculture will be recovering, first in its crop production, and then later in its livestock (livestock may need to take six to eight years to regain their pre-war numbers), which will diminish import requirements. Besides this, trade in foodstuffs may be influenced by monetary difficulties; for example, when European relief from UNRRA sources ceases and Europe is asked to pay for what she needs, she may well have to restrict her imports merely for lack of sufficient means for payment. On the other hand, production overseas will at last expand; the incentives being offered now will begin to bear fruit as soon as the disabilities, labour shortage, etc., are removed.

That is the moment at which a world slump will threaten. Europe's demand will fall off just as overseas production (owing to the inevitable time lag in the fulfilment of agricultural processes) reaches an all-time high. And not merely will the *volume* of demand be changed, but also its character; the *types* of foodstuffs needed by importing countries will no longer be what they were in the days of emergency relief. All this will call for adjustments on a grand scale—in fact, on such a scale as has hitherto precipitated major depressions. It remains to be seen whether international planning will be permitted to achieve a more orderly re-mustering of economic forces.

But the reader may well ask: what about the resolutions of the Hot Springs Conference on food and agriculture and the Food and Agriculture Organization of the United Nations set up in 1945? Surely, it is argued, the governments of forty-four nations which joined together in a solemn pledge to raise the levels of nutrition and the standard of life of their peoples would not allow surpluses to accumulate again as they did in the 1930's and permit deliberate restriction of food production. The Hot Springs Conference recommended that the governments represented "immediately undertake the task of increasing the food resources and improving the diets of their people". They recognized that "in order to attain the highest nutritional standards a progressive expansion and, where necessary, re-orientation in agriculture will

be required". The governments represented accepted "the responsibility of making it possible, so far as it is within their power, for each person in their respective countries without an adequate diet, to improve his diet to obtain the physiological requirements of health". All this and much more that is contained in the Final Act of the Hot Springs Conference clearly indicates that the governments believed in the necessity for long-term world-wide expansion of food production. They saw impressive evidence of the under-nourishment of two-thirds of the population of the globe, and argued that there should be no restrictions on food output and food trade until that situation was rectified.

If we want to peer into the future and envisage what the world food and agricultural situation will be like after the transition period, we must attempt to translate these brave resolutions into terms of practical politics. Who, in fact, is going to eat more, and where will the extra food which they eat be produced? Taking Europe first, there is unquestionably scope for great improvement in the diet not only of the peoples of Eastern Europe, but also those of the West, not only of the urban population, but also of the rural. The masses who eat mainly bread and potatoes should consume more dairy produce, fruit and vegetables. It will be urged that Europe, being a crowded continent, should concentrate on dairying and market-gardening, and should rely increasingly on imports for its wheat, sugar and to some extent its meat. Actually things may not turn out quite like that. First of all, no allowance has been made for improvements in Europe's farming technique which could enable her to produce substantial tonnages of wheat and sugar at world prices. Secondly, it is by no means certain that she will be able to develop sufficient export trade to cover large additional food imports as well as her requirements of raw materials. Since in the immediate post-transition years many European countries may still be short of foreign assets and wrestling with balance of payment problems, their development into large-scale food importers is likely at best to be a slow, gradual process.

What, then, of the Dominions and the Americas? In the main these are countries where diets already conform to physiological requirements, and there is not much room for improvement, apart from special areas such as the U.S. cotton belt. Although the war years have shown that even in the U.S.A. full employment brings a notable increase in food consumption, it would be foolish to assume unhesitatingly that full employment can be maintained in peace-time. On the other hand, many of these countries, apart from the U.S.A., have vast potentialities for increasing their food production—potentialities which far outstrip their capacity to

consume. Much is heard these days of rapid industrialization of these overseas territories, from which it is argued that they will in future have less food to export. No more ridiculous *non sequitur* ever became current. These countries are perfectly capable of expanding both their industries and their agricultures simultaneously, and nothing suggests that they will desist from opening up new areas for food production in the hope of snatching export advantages from their rivals. If any future trend is certain this one is, and it has been welcomed in the Hot Springs resolutions.

The real crux of the under-nourishment problem is Asia, particularly China and India. That is where the greatest need exists and where, on paper, exist the greatest potentialities for improving diets. The question is, How rapidly can the nutrition of the Eastern peoples be improved and from where will the necessary food be obtained? This is a vital and intricate problem which Hot Springs did not seek to discuss, and on which experts' opinions differ. Some argue that China and India during the next fifty years will experience an industrial revolution comparable with that of Britain in the early nineteenth century, and that, being densely populated countries, they will both of them, like Britain, have to resort to imports to feed their millions of industrial workers. Their requirements in machinery, factory equipment and so on will be covered by vast loans from the Western world, so that they can use their rather limited exports to pay for the imported food. The counter-argument asserts that this is altogether Utopian, that foreign loans will not be available on such a scale and that, therefore, both China and India will have to reserve their limited supplies of foreign exchange for the purchase of plant and machinery, leaving nothing over for food imports. Consequently, improvement in the people's nutrition will be related to the speed at which their domestic agricultural systems can be modernized, systems which, incidentally, are capable of huge increases in output. Which of these views will prove the truer no one can yet tell with any certainty, but the prospects on the whole favour the second alternative.

However that may be, it is important to stress the gradualness which must necessarily characterize improvements in living standards. Even if the expansionism postulated at Hot Springs is everywhere practised successfully, the year-to-year increase in food demand will be not dramatic, but modest. It could not, for instance, leap forward to such an extent as wholly to offset the decline of European demand for food imports which will characterize the end of the transition period. It will be a trend for twenty or thirty years rather than twenty or thirty months.

From Britain's point of view, the main conclusion to be drawn

from the above analysis is that world food production appears capable of expanding quite as fast, and perhaps faster, than world food consumption, even assuming the most optimistic developments of the latter, for the food-production capacity overseas is still largely untapped, and probably contains many hidden surprises. The long-term outlook, therefore, is not one of gloom and scarcity; it is one of abundance, or, more accurately, of abundance in relation to what the peoples can afford to buy.

(iii) *British Agriculture—the General Problem*

The world situation into which British agricultural policy will have to be fitted may be summed up in the slogan "The Hungry 'Forties and the Fulsome 'Fifties". During the 'forties British farming will have to continue on a war-time or semi war-time basis, but by the end of the decade world supplies should again become plentiful, and it will be for us to choose what to do with our farming industry.

So much romantic nonsense is written about farming that it may be worth prefacing this discussion with a few rather obvious truths. (Facts are none the less valid for being elementary and simple.) To begin with, we are all, I suppose, agreed that the purpose of agriculture is to provide food, or rather to provide better food. It was when primitive man got tired of berries and the products of hunting that he settled down to till the land, thereby diversifying his diet. Today we are agreed that agriculture should not only provide a diverse diet, but also the foods which physiologists recommend as essential to health. In short, the medical people set up the targets (subject to gastronomy) and farming endeavours to achieve them.

Most of the disputes about agriculture concern where it ought to be located, how far a country should grow its food at home and how far it should import or export foodstuffs. In the case of Britain, nearly everybody agrees that we ought not to try to grow bananas and that we should produce all we need of liquid milk, but between these extremes there lies a wide range of products—grain, sugar, meat, eggs, butter and cheese—which may be partly home-produced and partly imported, and most of the policy arguments boil down to a difference of opinion on this basic question.

Those who advocate a Socialist form of society must accept the responsibility of deciding what to do about these commodities. After all, the essential of Socialism is that economic activity is planned in the interest of the common man, instead of being left to the influence of chance forces, or being planned for the benefit of a favoured few. But a lot of people have confused planning

with protection and *laissez-faire* with free trade; nothing could be more untrue. *Laissez-faire* was sometimes free trade, as in Britain, and sometimes protectionist, as in France and Germany and the U.S.—it all depended on the objectives which each nation desired to pursue. Similarly, Socialist planning can be either free trade or protectionist. In other words, even if you have in peacetime, as you have had in war, complete State control of agriculture and State purchase of all food imports, you will have to decide whether to pay British producers of unsheltered products more than the world price or not. This is really such a fundamental matter, and has such a profound influence on all other aspects of agricultural policy, that it is worth devoting a few paragraphs to getting the issue quite clear.

The classical economists laid down emphatically that economic welfare is maximized by buying in the cheapest market; they added some important qualifications as to perfect competition and the absence of restrictions on trade, but that was their central thesis. In the absence of artificial hindrances the labour and capital available in any country will concentrate on those lines of production in which they yield the greatest output, and the resultant pattern of industries will be the most advantageous that that country could achieve. When applied to British agriculture and industry, this meant that if in agriculture it took two hours' work to produce a bushel of wheat, while a bushel of imported wheat could be bought by devoting one hour's work to the production of export textiles, then labour and other resources should move out of agriculture into the cotton industry, and wheat should be increasingly imported. This is, in fact, though expressed in simple form, what happened in Britain after the Repeal of the Corn Laws in 1846. It was this change that made possible the phenomenal rise in the general standard of living of the masses in this country. If the opposite course had been taken and we had remained protectionist, all our advantages of early industrial development, large coal supplies and easy sea communications would have counted for very much less, and our standard of living would more closely resemble that of, say, France and Germany.

To some people it may seem strange to have to reiterate these facts, which were accepted as household truths less than a generation ago, but the present generation has rapidly forgotten, and even some of those who can still remember appear to have lost heart and forswear their former knowledge. It is true that during the twentieth century the conditions under which *laissez-faire* principles can be successfully pursued have largely disappeared, but, as has already been mentioned, the principles of *laissez-faire* are not the same as the principles of free trade, and merely be-

cause the bathwater has become filthy there is no reason for throwing away the baby with it!

Nevertheless, it would be foolish not to recognize that there have in the past been important and sensible reasons why certain nations preferred a policy of protectionism. Broadly speaking, there have been three underlying motives: the first is that protectionism protects a country from having to make sudden major economic adjustments. In fact, it is in itself a dilution of the pure principle of *laissez-faire*; it is a modest instalment of planning. The sudden emergence of large-scale food production overseas created grave problems of adjustment for European farmers, and some continental countries which still had large farming populations decided that the dislocations of complete readjustment would be too great. Again, in the last two decades world-market prices have displayed such extraordinary instability that many countries adopt protective devices in order to insulate their peoples against irresponsible oscillations. Moreover, the existence of unemployment promoted protectionism so as to create more work, which, even if not of a highly productive nature, was clearly preferable to no work at all.

All these examples show the use of protectionism as a remedy when the economic system of *laissez-faire* could not adapt itself to changing circumstances. If we are now to have a planned economy, then there will be all sorts of other weapons available to us for adapting our economic life to world developments. If we can maintain full employment, if we can institute international commodity control to curb fluctuations in prices and monetary agreements which will enable nations to resolve their balance of payment problems, then there will not be many instances in which protection could be reckoned a good remedy for troubles. In short, protection attempted to deal with economic maladjustments indirectly; Socialist planning attacks them directly.

The second main reason for the adoption of protection is not an economic one. It arises from the view that a large agriculture is a good thing in itself, and that the agricultural population is the main source of a nation's vitality and strength. Those who take this view look upon agriculture not as a mere economic activity designed to produce food, but as a way of life with special social values of its own. Some of the more extreme proponents of this view hanker after a fully mediæval rural pattern—landlords at the head and a regiment of cultivators working under their guidance; a system of leaders and breeders. When applied to Britain the more moderate version of the sociological argument carries considerable weight, at least superficially. Few would dispute that as a nation we have become far too urban, and most

people would desire to see a larger proportion of the population enjoy direct access to nature and to country surroundings. Yet if we really believe this we cannot be very happy about the solution offered by the agricultural enthusiasts who propose at the most to increase the labour demand of British agriculture by 50%, which would put 500,000 more men on the land. The slum-dwellers who need moving out of the cities are numbered not in thousands, but in millions, and the truth is that these agriculturists are just tinkering with very serious problems. To restore the rural-urban balance in British life, we have got to tackle, not the size of our agriculture, but the location of our industries; it is only by a radical reorganization of these that a sufficient dispersal of the population can be accomplished.

There is a third reason for agricultural protectionism which played a considerable part in the policy decisions of continental countries, and that is the desire for self-sufficiency in case of a war. This need not detain us long, since it is quite irrelevant in the case of Britain. In peace-time Britain produces about 25% of her food supplies, measured in calories. During the war, as a result of an extremely ambitious and highly successful agricultural production campaign, she has increased that proportion to close on 40%, though even that, in part, is thanks to consumer rationing and changes in the character of the diet. The truth is that Britain cannot in any circumstances attain a very high degree of self-sufficiency and, as has been pointed out before,¹ much the best insurance against the occurrence of war is to pursue a storage policy—i.e., keep a permanent stock of three or four years' supply of non-perishable foods, like wheat and sugar, and rather smaller stores of other products, such as meat and fats.

It seems, therefore, that none of the traditional reasons for choosing protectionism would remain valid under a regime of planning. To put it broadly, protective devices sought to accomplish in a clumsy fashion things which planning can achieve far more precisely by less expensive means. And the expense should not be under-rated. The difference in economic wealth between protectionist and free-trade policies can be seen in the case of a country like France. In France there are roughly a million more men producing wheat than there need be; in other words, present wheat requirements could be obtained partly by concentrating production on the best land, and partly by increasing exports to pay for larger wheat imports. There are, further, something like another million superfluous workers retained in agriculture as the result of the protection of sugar-beet, meat, butter and other products. These two million hands ought to be able to turn to the

¹ Viscount Astor and B. S. Rowntree, *The Agricultural Dilemma*, 1935.

production of other much-needed consumers' goods, and would represent an addition of 10% to the labour force of the country, and probably more than 10% to the national income. Such a calculation is, of course, extremely rough and schematic; it leaves out of account all repercussions on other industries, but it does show that the protection of a single industry—and agriculture is by no means the only protected industry in France—inflicts on the community a significant loss of income.

Socialist planners presumably have a broad obligation to their citizens to make the national "cake" as large as possible. It is a chief justification of their planning that they will increase real wealth. Therefore they, more than anyone else, should eschew practices which in any way impede the maximization of production. No one, of course, can be certain that planning will succeed. We might not be so successful as we hope in avoiding slumps and in maintaining full employment. If things go wrong, why then we must not hesitate to employ any device. If we have chronic unemployment, it would certainly pay, in every sense of the word, to grow bananas in this country; but, short of catastrophes of that kind, we should try to distribute our resources of capital and labour in the most productive pattern possible, and that means, among other things, adhering to the classical economic maxim of not producing things at home when they can be more cheaply imported from abroad.

(iv) *Special Circumstances*

While many people would agree with the previous argument as a general theoretical proposition, a number of them would insist that circumstances after the war are unfortunately highly abnormal, and Britain will not be able to pursue the sort of policies appropriate to a world at peace and in economic equilibrium. For a number of reasons, so they say, she will be obliged to import less food and grow more at home. In the first place, overseas countries which have been rapidly industrializing themselves during the war, will continue to develop their industries, and will need less and less to import manufactured goods from Britain. At the same time, they will be consuming at home a greater proportion of their food output, and will thus have less available for export. Secondly, it is alleged that the forthcoming industrialization of the backward countries, notably India and China, will bring them into the market as large-scale importers of foodstuffs, which will push up world food prices and create conditions more akin to scarcity than over-production. Thirdly, it is pointed out that the British balance of payments will be such that we shall not be able to afford imports on the old scale; we shall have lost a high

proportion of our foreign assets; in respect of some countries we shall be a debtor instead of a creditor, and we may well find it difficult to re-establish our exports at their pre-war level, let alone the much higher level which would be necessary if we were to import as heavily as before.

It is only fair to mention that another school of thought holds very different views on these matters. A counter-argument suggests that even though overseas countries have built up new industries, their agricultural resources remain so vast that they will produce on a scale which is likely, by British encouragement, to be larger at the end of the transition period than ever before. They will have huge food surpluses for sale, and unless they decide to throw the goods into the sea, they will have to agree to buy some sort of commodities from the countries to whom they sell the food. As regards the second point, of possible demand from India and China, reasons have already been given for thinking that this cannot develop on a large scale for many years to come. It certainly could not become so intense as seriously to raise the level of world food prices, since that would nip the new development in the bud. If world food prices did increase as a permanent feature, it is quite certain that China and India could not afford to import very much food; they can only come to the market as long as prices remain low. Finally, as regards Britain's own personal problem of reviving exports, no one can dogmatize, but in the light of what has been said, there are some grounds for optimism. If the overseas countries find themselves confronted with the problem of disposing of large food surpluses every year, and if in fact Britain, as always, remains the principal potential buyer, then there is reason to suppose that these countries would be willing to take our exports in exchange for their surpluses. Certainly Britain would be in a strong bargaining position, and since the elasticity of supply of agricultural produce is always less than of manufactures, the terms of trade might be expected to turn again in Britain's favour. Taking the picture as a whole, the optimists have a strong case.

Nevertheless, the actual outcome must be regarded as a matter of great uncertainty. All we can say is that no one should be more pleased than British Socialists if circumstances allow us to resume international trade on a large scale. We should like to be able to import many things which can be produced much more cheaply overseas, including many basic foodstuffs, but we recognize that if things go badly, we may have to produce some of them at home. While we must be prepared for having to do this, we recognize that it would be a second best, and there could be no virtue in anticipating evil days by providing artificial stimuli to high-

cost agricultural production. Moreover, from an international point of view that would be an anti-social act.

In the transition period, while Britain's balance of payments is being brought into equilibrium, quantitative regulation of imports will be necessary and we shall continue a high level of food production at home. When equilibrium has been reached it will again be reasonable to organize food production on the principle of buying in the cheapest market. If the pessimists' forecast comes true, we shall find imports so dear that a larger part of our basic foodstuffs will have to be home-grown. If the optimists prove right, the reverse will be the case.

There are another set of special circumstances which, according to some people, would make it undesirable to apply the principle of comparative costs to British food policy. It is said that even if we find ourselves able to go back to large-scale food imports, it will be wrong to do this, because it would involve letting the farmers down. During the war we got our agricultural land working at a high level of productivity, and also secured for our farmers a high level of prosperity. We owe a loyalty, so the argument goes, first to farmers to maintain their prosperity, and secondly to the land to maintain its fertility. The farmers' leaders who champion this view refer to what they call "the betrayal of 1921", when the Agriculture Act was repealed and agricultural prices slumped. They are naturally and rightly anxious that such a thing should not happen again.

In its extreme form the farmers' proposal requires a continuation of the present war-time pattern of agricultural production at roughly speaking the present level of prices, and in this form it is as indefensible as would be a proposal to continue indefinitely the war-time pattern of industrial production, including the war-time output of all armament factories. The present large output of cereals in this country has been required simply in order to economize shipping. It has proved extremely expensive to get the marginal acres into production, and the expense of keeping them in production after the war could not be justified and would not, in fact, long be tolerated by Parliament.

A less extreme form of the argument is that the present level of farming incomes should be maintained even though the pattern of agricultural production may be changed. The farmers would be "betrayed" if farm prices were reduced to such an extent that the present level of profits diminished. No one would deny that before the war farmers and farm-workers, taken as a whole, got much less than their due, and no one would wish ever to see reduced the present minimum wage of farm-workers, but that the present level of farm incomes, which is probably nearly three

times as high as pre-war, can be indefinitely maintained, is fantasy. The generous price schedules of the war years were framed so as to enable farmers to cover the costs of various capital investments, such as the purchase of machinery, necessitated by the switch-over to more arable production. Unfortunately, most farmers have forgotten that their present incomes contain a substantial element of capital; they have come to regard their receipts as representing what current earnings should be. This is an indefensible position; there is no other section of the community which can expect, after the war, to continue earning three times as much as before the war, least of all when the only way this could be accomplished would be either by Exchequer subsidies or by indirect taxes on basic foodstuffs.

It has to be remembered that farming cannot be planned without reference to the rest of the economic life of the country, and British economic activity cannot be planned completely independently of developments in the outside world. When the Agriculture Act was repealed in 1921 it was not that the then Government decided in cold blood to desert the farming community, but rather that the pressure of events all over the world was so strong that British prices had to come into line. It is relevant to recall that in that slump the prices of manufactured articles fell even farther than those of farm products. The remedy is not to devise a special policy for farming, but to devise measures for keeping British economic activity as a whole on an even keel, and, so far as possible, to minimize the repercussions which fluctuations in world activity may have on British trade. In short, it is only if the Government's plans for full employment and the international plans for a monetary union can be made to work that it will be possible to avoid again betraying farmers.

Nevertheless, even on the farming front we need not be unduly pessimistic. There is a strong case for assuring the farming community a larger share in the national cake than they had before the war. It should be perfectly possible to give farmers a global income of, say, at present prices, two to two and a half times the pre-war amount—i.e., a "real" increase of at least 50%—irrespective of the kind of foodstuffs it is found best to produce. Circumstances may require that Britain concentrates more than ever on liquid milk, or they may require the retention of a comparatively large acreage under grain. In either case it is comparatively simple, with the information on costs of production which the Ministry of Agriculture now possesses, to arrange prices in such a way as to provide farmers with a certain level of income. This may, indeed probably will, involve a certain measure of State assistance, and subsequent chapters will discuss how this

assistance can best be given. The point here to be emphasized is that on any reasonable interpretation of their claims, farmers need not be let down after this war, even though the kind of products they may have to produce still remains uncertain.

It is equally possible to maintain our loyalty to the soil. There appears to be considerable uncertainty of opinion in scientific circles as to what exactly is meant by soil fertility and how best it can be conserved, but on one point there seems at least a measure of agreement—namely, that there are various alternative systems of cropping which will maintain the land in good heart. Something will be said in later chapters about the special problems of arable farming and ley farming, and about the improvement of permanent grass land. What does emerge is that enough is now known by scientists to enable us to look after fertility whether we have, for other reasons, to operate a system of grain-farming or of mixed farming or of predominantly grass-farming.

(v) *Conclusions*

From what has been said it becomes clear that British agricultural policy and British systems of farming will have to be as flexible as possible in the years to come. We do not know within fairly wide limits what kind of a world will emerge when the ravages of this war have been repaired. We know, indeed, that whatever conditions are at the end of the transitional period, they may change very rapidly in a small number of years, since so great are the forces of technical development now available to the peoples, that developments which formerly spread themselves over centuries may now be accomplished in a couple of decades. We need to have an agriculture which can be adapted to the nutritional requirements of our people, and even these may not yet be fully known, since new discoveries in the field of dietetics are constantly being made. We need an agriculture capable of adjusting itself to changes in the position overseas. Fundamentally, of course, we shall continue, as in the past, to base our farming on livestock and on grass, which is the crop that grows best in this country, but at the same time we must be ready to have a greater or lesser quantity of cereals and other food crops. It seems likely that ley farming, modified and adapted to suit the needs of different districts, will provide a most elastic and adaptable system for such conditions. The emphasis must be, above all, on adaptability.

The second conclusion is that agricultural incomes can and must be secured at a reasonable level by State action. Farmers have in the past been victims of wild fluctuations in the prices

of their products. Small-holders have worked for less than a subsistence return, while paid labourers have had the least share of all. We can assure to all these groups an income more commensurate with their efforts. We have the means of consciously relating prices to overall costs of production. This, however, does not mean that the State should be committed to maintain indefinitely in the industry the present number of farmers and farm-workers. It is almost certain that, as the result of technical developments yet to come, we shall in future secure our food production with less effort than today. That may mean fewer hired labourers and the disappearance of some marginal farmers—*i.e.*, either farmers on marginal land or farmers of marginal ability. Such a change is the sort of thing which in a rational world should be welcome as an indication of progress. What we do wish to secure is that if and when this change is to occur, the transfer is accomplished not by reducing the incomes of the potential transferees to an undesirably low level, until they are squeezed out of the industry, but rather by deliberately planning their transference without letting their incomes fall.

The final and not least important conclusion is that State policy must be more than ever concerned with the promotion of agricultural efficiency. What has been accomplished during the war shows how immense the scope was, and still is, for improving the technique of production on practically every farm in this country. If there are difficult times ahead for Britain, and if circumstances oblige us to grow more food at home, then it will be all the more imperative to see that this is done with the least possible increase in real costs. In this field an enormous number of proposals have been made, and need to be studied; many of the later chapters will be devoted to discussion of them. They include measures for replanning and re-equipping the farms of this country, for providing services and advice, through Country Committees and in other ways, which shall enable individual farmers to adopt the most up-to-date methods, and they include innovations in price policy designed to encourage the adoption of the best practices and penalize those who lag behind. It is precisely because farming is organized in such a vast number of small units, each with individual problems of management, that the promotion of efficiency is a more complex and difficult task than in most other industries. If methods can be devised for retaining in peace-time the enthusiasm and energy which farmers working on County and District Committees have displayed during the war years, then, when the special disabilities and shortages due to the war have been removed, there should be exciting opportunities for improvement in every branch of farming. British

agriculture has shown itself capable of quite astonishing activity under the stress of war: it should be capable of continuing that activity under the stimulus of peace.

CHAPTER THREE

BRITAIN'S NUTRITIONAL REQUIREMENTS

By G. FRAENKEL

(Imperial College of Science and Technology, London)

The Marriage of Agriculture and Nutrition.

THE END conditions the means—if it does not always justify them. So it is that agriculture, the process of production, is conditioned by its end-product, food. It is curious that this obvious truth gets overlooked. But clearly, unless there are consumers who will buy and eat the food that he grows, the farmer must go out of business. And clearly, unless a farming community can adjust its agricultural system to keep pace with changes in the kind of food that the consuming public requires, it is in danger of losing its markets to countries with a more flexible agriculture.

The difficulty until recently was to know what it was that the consuming public *did* want. In the absence of any certain evidence or any official pronouncements, it was natural to play for safety and go on producing exactly what one's father had done. The survival of "mixed farming" in this country is largely due to this sort of muddled fatalism. But it is now possible to know, and there can be no excuse now for those Wiltshire farmers whom A. G. Street described as "watching their capital shrink steadily, year after year, in a hurt and bewildered frame of mind". "They are farming honestly and well, and losing five pounds per acre on every acre of corn they grow."¹

The science of nutrition is now sufficiently advanced for it to be possible to estimate with a fair measure of accuracy what is defective and what is excessive in a nation's diet. In the case of the United States this has already been done. Fruit and vegetable output will need to be increased there by about 75% if the whole population is to be fed on a health standard; milk by about 39%; eggs by about 23%; and so on. Unfortunately, as Sir John Orr has recently pointed out, "no such accurate

¹ A. G. Street, *Farmer's Glory*, 1932.

estimates are available for Britain'.¹ It is hoped that this chapter will do something to fill this gap.

At present this country has virtually no agricultural export trade. Everything that is grown here must be eaten here—if it is to be eaten at all. It is therefore of the first importance, in any discussion of post-war British agricultural policy, to know what quantities of what foods the British consumer ought to eat more of. It does not, of course, automatically follow that because more fruit, for example, may be needed, it must be grown in these islands. It may be preferable to import the vitamin-rich citrus fruits. But in the case of any commodity that can only be produced here—or that can be produced as cheaply here as anywhere else—and that is not at present being eaten in the quantities it should be, the situation is different. Here home consumer-interest and home producer-interest coincide. It is this coincidence that has prompted the slogan "the marriage of agriculture and nutrition", which provides the initial premise of a Socialist agricultural policy. In the following pages an attempt will be made to show why this marriage has been "arranged".

Deficiencies of Pre-War Diets

Information on the pre-war diet of the British people comes from two main sources: (i) surveys of household budgets as undertaken by Orr (1937),² Crawford (1938),³ Massey (1942),⁴ the Ministry of Labour⁵ and other bodies, and (ii) an analysis of the total food supplies, home-grown and imported, of the country.⁶ Both methods have their advantages and drawbacks. Surveys can never completely cover the field, and it is difficult to obtain information as to the distribution of goods consumed, both within a household unit and outside the home. On the other hand, figures for total food supplies are misleading, unless proper allowance is made for wastage occurring between the farm (or port) and the shopping-basket; for the avoidable and unavoidable losses in the kitchen; and for the unevenness of distribution that is caused by variations and fluctuations in family incomes. Furthermore, there is much uncertainty as to how much food does not pass through the ordinary channels of trade—e.g., is consumed on farms or obtained from back-gardens and allot-

¹ J. B. Orr, *Food and the People*, 1943.

² J. B. Orr, *Food, Health and Income*, London, 1937.

³ W. Crawford and H. Broadley, *The People's Food*, London, 1938.

⁴ P. Massey, "The Expenditure of 1,360 British Middle-class Households in 1938-39," *J. R. Statist. Soc.*, 1942.

⁵ *Ministry of Labour Gazette*, December 1940. Weekly expenditure of working-class households in the United Kingdom in 1937-8.

⁶ Food (Defence Plans) Department Report. H.M.S.O., 1938.

ments. Where man shares a food with animals, as with potatoes, vegetables and cereals, a further statistical complication arises. Nevertheless, considerable agreement has been reached between figures obtained from dietary surveys and those derived from Government statistics. Both figures show clearly that the overwhelming majority of British people were adequately fed before the war as far as calories, protein and fats are concerned.

The British people, then, before the war, were not *undernourished*; but they were *malnourished*. This conclusion is forced on us most strikingly when we compare the total supplies of nutrients available with estimates of the national requirements. Official statements of this kind have recently been published.¹ When making such comparisons, one has to allow for a margin between the total food supply and the total estimated requirements for wastage in consumption and inequality in distribution. The margin has been estimated at 10–20%, and is comfortably surpassed in the British diet as far as calories, proteins and fats are concerned. This is evident from Table I (p. 72). With vitamins and minerals the position was different. Total supplies of calcium, vitamin A, B₁ and riboflavin fell considerably short of the national requirements, even when no allowance is made for the necessary margin. The supply of iron was barely sufficient, and, if the margin is allowed for, probably fell below requirements. The apparently satisfactory figure for vitamin C is misleading. If losses during cooking, etc., are taken into account, a deficiency in consumption must be assumed.

The reasons for these deficiencies are well known. Vitamin A shortage was due to the low consumption of green vegetables and milk. B₁ shortage was mainly caused by eating white bread instead of wholemeal. Riboflavin shortage was due to too little milk and the wrong type of bread, and the calcium shortage was almost entirely due to the low milk consumption. Eating more vegetables would also have greatly increased the supplies of iron and vitamin C. Better nutrition therefore depends on these essential measures: more milk, more green vegetables and better bread.

In the United States the nation-wide surveys, conducted by the Bureaus of Agriculture and Labour, under the direction of H. K. Stiebeling, have revealed a very similar picture of malnutrition.² The diet of many people is short of vitamin A, B₁, riboflavin, vitamin C and iron. Shortage of calcium also prevails,

¹ *Food Consumption Levels in the U.S.A., Canada, and the United Kingdom*, H.M.S.O., 1944.

² H. K. Stiebeling, "Better Nutrition as a National Goal." *Food and Life. Yearbook of Agriculture*, U.S. Dept. Agric., 1939, p. 380. H. K. Stiebeling and F. Clark, "Planning for Good Nutrition." *Food and Life. Yearbook of Agriculture*, U.S. Dept. Agric., 1939, p. 321.

but to a lesser degree, as more milk is consumed in the United States. There is, in addition, a serious shortage of nicotinic acid in the maize-eating states of the South; this shortage is responsible for the widespread occurrence of pellagra. In Canada extensive surveys made during the years 1938-9 revealed that most of the children were not getting sufficient calcium, and that there was a general shortage of vitamin B₁.¹ In addition, the Canadian diet was, and still is, seriously short of vitamin C.²

Table II (p. 73) gives the average amount of each principal food consumed weekly by the different classes of the British people before the war. The figures in columns 1-7 were obtained from surveys of family diets; they express the quantity of each food "as bought". These diets are only comparable in a very broad sense, as they have been obtained at different periods and by different investigators and methods. Excepting Sir John Orr's figures, they do not generally include foods eaten outside the home. This category is negligible, however, except in the higher-income groups. All the quantities given for vegetables and fruit have been estimated from the expenditure upon them, as it has been found impracticable in survey work to make a direct estimate. These figures are, therefore, subject to a wide margin of error.

Taking them for what they are worth, and comparing them with what experts recommend us to eat (Table III, p. 74), we can see at a glance to what extent most people in these islands were short of milk, vegetables and fruit. The men who produce most of the food—the agricultural workers—were lamentably fed, in spite of additional allowances which they obtained from the farms and from their own gardens or allotments. The rations of the poorest 10% provide a forcible reminder of one of the darkest spots of our social system before the war. The diets improve as we ascend the economic ladder, and the well-to-do were in most respects adequately fed, though even they should have drunk more milk, and eaten more vegetables and fruit.

The most recent estimates, made in *Food Consumption Levels*,³ of the average food consumption before and during the war, are given in Table II, columns 8-9. It should be noted that these figures are in an entirely different category from those in columns 1-7. They "represent the total supplies of food moving into civilian consumption, measured at the point where they enter the consumer's hand and divided by the total civilian population". Considering both the vast differences, and the difficulties in-

¹ Canadian Studies on Nutrition. Reprinted from the *Canadian Public Health Journal*, 32, May 1941.

² *Food Consumption Levels in the U.S.A., Canada and the United Kingdom*, H.M.S.O., 1944.

³ *Ibid.*

herent in each, between the various methods of estimation, there is a remarkable agreement between figures obtained from consumers' surveys on the one hand and food-supply statistics on the other. The most striking disagreement applies to vegetables, where the estimates made in *Food Consumption Levels* are very much in excess of earlier ones.

During the war, artificial shortages, rationing, "digging for victory", the National Milk Scheme and other measures have brought about fundamental changes in the food situation, most of them, fortunately, in the right direction. Decreases in meat, fish, fats, fruit and sugar are balanced by increases in cereal foods, milk, potatoes and vegetables, and by improvements in the quality of the cereal foods, with the result that the consumption of calories has scarcely altered and that of many of the important nutrients has improved very considerably. (See Table II, columns 8-10, and Table I.)

The absence of the easily recognized signs of such deficiency diseases as beri-beri, pellagra and scurvy, and the spectacular fall in the incidence of rickets, have led many to believe that the picture of malnutrition has been painted too black. This optimism is quite untenable. Recent research, mostly just before and during the war, has revealed really widespread symptoms of ill-health, as distinct from clearly recognizable diseases, that are due to a habitual low intake of certain vitamins and minerals.

The significance of this borderland between health and disease has been brought out in a series of experiments. In one of them, in which the daily intake of vitamin B₁ was restricted to what used to be the common standard in millions of homes in the U.S.A. and Britain, changes of behaviour were found to develop within a few weeks.¹ The subjects became depressed, irritable, quarrelsome and nervous, inefficient at their work, confused in thought, uncertain in memory. Headache, backache, gastric discomfort after meals, sleeplessness and intolerance of noise were some of the symptoms. A list of the complaints that are typical of the early stages of pellagra (which is caused by a deficiency of nicotinic acid, one of the B₃ vitamins) reads in much the same way: loss of weight, strength and appetite, insomnia, headache, vertigo, dyspepsia, diarrhoea, irritability, loss of memory, depression, palpitation, flight of ideas, nervousness, inability to concentrate and mental confusion.² These symptoms are typical of people whose diet is low in vitamins of the B com-

¹ R. D. Williams and H. L. Mason, "Further Observations on Induced Thiamin (Vitamin-B₁) Deficiency and Thiamin Requirements of Man," *Proc. Staff Meetings, Mayo Clinic, Rochester, Minn.*, 1941, 16, 433.

² F. Bicknell and F. Prescott, *The Vitamins in Medicine*, London, 1942.

plex, and develop sooner and more severely during periods of hard physical work.¹ We now know the explanation. The B-vitamins are essential to the metabolism of carbohydrates, and the demand for the latter is increased by physical work.

A low intake of vitamin C leads to suboptimal growth, bleeding gums, bad wound healing and lowered resistance to infections. Night blindness and other eye disturbances are the early signs of vitamin A deficiency. It will be seen that these symptoms of subclinical deficiencies affect our mental and physical well-being, and thus our whole social, economical and political life. Those most affected are the manual workers and, of course, the poor.

Slight deficiencies of calcium may have more far-reaching effects than has hitherto been supposed. For example, in experiments with rats² a shortage sometimes only became manifest in the second or third generation. Doubling the amount of calcium in what was regarded before as an optimal diet led to better growth, earlier maturity, higher adult vitality, longer period of "prime of life" between maturity and senility and increased length of life, all unspecific symptoms which a perfunctory medical examination would fail to reveal.

Nutritional anaemia, caused by iron shortage, is widespread among the poorer classes, especially with girls and young women. At the Peckham Health Centre 70% of the girls between sixteen and twenty and 65% of the women between twenty and thirty were found to be anaemic.³ The listlessness and the lack of vigour and energy of poor hard-working women have often been associated with lack of haemoglobin in their blood.

Dietary Standards and their Translation into Weekly Allowances of Food

There will be no need to explain in detail how our dietary standards have developed and how our views as to what constitutes a desirable intake of each of the important groups of food have changed. This story has been told in a recent publication.⁴ It is enough to say that these standards originated empirically in analyses of what were considered to be good diets and have gradually been based on scientific methods, mostly balance and saturation tests. In fixing modern dietary standards, increasing attention is paid to a diet which will not only prevent illness, but

¹ R. E. Johnson *et al.*, *J. Nutrit.*, 1942, 24, 585.

² H. C. Sherman and G. S. I. Lanford, *Essentials of Nutrition*, New York, 1940.

³ J. H. Pearse and L. H. Crocker, *The Peckham Experiment*, London, 1943.

⁴ I. Leitch, 1941-2, "The Evolution of Dietary Standards," *Nutr. Abstr. and Rev.*, 11, 509-21.

will ensure positive good health. This has led in recent years to a tightening up of standards, those of vitamins B₁, C, A, and riboflavin, and of calcium, being higher today than they were only a few years ago.

The war has made it necessary to revise and stabilize our knowledge, fill in the gaps and sponsor new research. Much of this work was organized in the U.S.A. by the Committee on Food and Nutrition of the National Research Council (N.R.C.), a body formed prior to the entry of the U.S.A. into the war, as it became realized that widespread malnutrition might endanger the security of the nation. The results of this inquiry are embodied in what are conveniently referred to as the N.R.C. standards¹ (sometimes called the Washington yardstick for good nutrition), which summarize the most up-to-date views as to the nutritional requirements of the different age, sex and occupational groups. It was the deliberate policy of the N.R.C. to fix the standards on the high side, and it is widely felt that those for riboflavin, vitamins A and C may perhaps be unnecessarily high.²

Tables I and IV contain an estimate of *per capita* nutrient requirements, as calculated from the N.R.C. recommendations in *Food Consumption Levels*. The N.R.C. standards have quickly become the accepted basis for the work of many national and scientific bodies concerned with nutrition, and have secured international recognition by being bodily incorporated in the report of section 1 of the Hot Springs Conference.³ In connection with nutritional standards this Conference made two important pronouncements. Resolution 7 recommended:

"that the governments and authorities here represented: undertake to establish nutrition organizations, if such do not now exist, entrusted with the responsibility of ascertaining food-consumption habits and the nutritional status of different sections of the population; such organizations to be composed of authorities in health, nutrition, economics and agriculture," etc. . . .

Resolution 9 recommends:

"that the governments and authorities here represented: adopt as the ultimate goal of their food and nutrition policy dietary standards or allowances based upon the scientific

¹ National Research Council, Reprint and Circular Series, No. 115, January 1943. No. 122, revised, 1945.

² L. J. Roberts, "Scientific Basis for the Recommended Dietary Allowances," *N.Y. State J. Med.*, 1943, 44, 59-65.

³ *United Nations Conference on Food and Agriculture, Hot Springs, Virginia, U.S.A., May 18-June 3, 1943*. Misc. No. 3 (1943), Cmd. 6,451, Misc. No. 4 (1943), Cmd. 6,461, H.M.S.O.

assessments of the amount and quality of food, in terms of nutrients, which promote health. . . .¹

The importance of these two resolutions, which were accepted by the British Government as well as by those of the other forty-three United Nations, can hardly be over-estimated. They impose on the Governments concerned a responsibility not only to collect the necessary information about the nutritional status of their respective countries (a matter very much left to private initiative before), but also to improve the diet of their people in accordance with nationally and internationally accepted standards.

During the war, the Governments of Great Britain and the United States have already accomplished notable achievements along the lines expressed in the resolutions. In both countries organized research on the largest scale has resulted in new tables of food values which now form the necessary basis for the evaluation of diets^{1, 2}; those compiled by the Medical Research Council have been used throughout this chapter. In both countries the food habits and food consumption of various population groups have been studied in surveys on an unprecedented scale.^{3, 4} The combined efforts have led to the publication of an important report on *Food Consumption Levels* in the United States, Canada and the United Kingdom,⁵ from which we have already quoted, which gives as accurate a picture as is possible today of total food consumption before and during the war in these three countries.

There are many possible ways of translating dietary standards into terms of actual foods, and there is room for much variation in the diet between different peoples and different sections of a people. The N.R.C. has outlined two such dietaries, one economical and the other expensive (Table III); they are both contained in the Hot Springs Report. It is sometimes said of many of these recommended dietaries that they are minimum cost diets, and therefore not desirable models. Most people, it is true, would have better food if they had more money to spend. On the other hand, it has been rightly pointed out in defence of minimum cost dietaries that "more money cannot buy better nutrition;

¹ Medical Research Council, *Nutritive Values of Wartime Foods*, 1945.

² National Research Council, 1944. *Tables of Food Composition giving Proximate, Mineral and Vitamin Components of Foods*.

³ National Research Council, Bulletin No. 108, 1943, *The Problem of Changing Food Habits*. Report of the Committee on Food Habits, 1941-43. Bulletin No. 109, 1943, *Inadequate Diets and Nutritional Deficiencies in the United States; their Prevalence and Significance*.

⁴ Most war-time surveys in Britain are still unpublished; vide *Advisory Committee on Nutrition Surveys*, London Hospital, February 21, 1944.

⁵ *Food Consumption Levels*, op. cit.

it will simply buy greater variety of the more expensive foods".¹ For many years to come food and money will be scarce, and we shall have to make the best of our limited resources by devising carefully an optimal diet at minimum cost. The simple truth of *all* good nutrition is the same for cheap and expensive diets—better bread, more milk and more vegetables. The consumption of the cheap basic food is relatively little affected by an unlimited choice of luxury foods. The rich eat not so very much less bread and potatoes than the poor (Table II).

Table III gives examples of such recommended dietaries. Two of them—those suggested by the British² and the Canadian¹ Medical Associations—have been devised for families consisting of two adults and three children. They have been included in Table III on a *per capita* basis. The average requirements of such families are, in our view, not very different from those of the whole population. The famous B.M.A. diets (1933) were too monotonous in character, and cannot any longer be regarded as nutritionally satisfactory. Giving a small allowance of milk, fruit and vegetables, and retaining the use of white bread, they are low in B-vitamins, calcium, and vitamins A and C. The League of Nations Commission on Nutrition did not work out diets in detail, and that given in Table III is an interpretation by I. Leitch.³ The Canadian Medical Association, in a booklet entitled *Food for Health in Peace and War*, published a series of model dietaries for families of different composition. The one chosen here is incorporated in the Labour Party's recent statement of policy.⁴ The Stiebeling diets⁵ are widely used in the United States as a basis for planning better nutrition. They are perhaps the most elaborate attempt to plan diets for all classes of the population.

Alongside these examples, Table III suggests a dietary which we should aim at providing for the British people after the war. The justification for the specific recommendations is contained in the later sections of this chapter. Table IV goes farther, and attempts to estimate roughly the chemical composition of such a diet, assuming certain principal foods to represent their class of food. Thus fruit is represented by apples and oranges, vegetables by cabbages, and meat by beef. To simplify the discussion, all cereals in this diet have been treated together as if they were all

¹ Canadian Medical Association, *Food for Health in Peace and War*, 1940.

² British Medical Association, *Committee on Nutrition Report*, 1933.

³ *Op. cit.*

⁴ J. B. Orr, *The Nation's Food*, Labour Party pamphlet, 1944.

⁵ Stiebeling and Clark, *op. cit.* H. K. Stiebeling and M. M. Ward, *Diets at Four Levels of Nutritive Content and Cost*, U.S. Dept. of Agriculture, Circ. 296, 1933.

derived from wholemeal flour, and all "visible" fats have been assumed to consist of equal parts of butter and margarine. It can be seen at a glance that the bulk of the calcium is derived from milk, half the riboflavin from milk and cheese, while cereals are by far the most important source of B₁, nicotinic acid and iron. The difficulty in satisfying the recommended quotas for riboflavin and vitamin A also becomes clear, and it is good to know that these quotas may have been fixed unnecessarily high.¹

The average requirement per head has been estimated in *Food Consumption Levels* to be 2,546 calories each day. This is a net quantity, and refers only to that part of the food supply which is actually eaten. As against this, the average amount per head of nutrients available in the United Kingdom before the war was 2,984 calories. The second figure refers not to food which is eaten, but to all edible portions of food which is purchased; it makes no allowance for the wastage of edible portions during storage cooking and other preparations. To allow sufficiently for this factor, it is often considered that about 10% should be added to the estimated requirements per head. Thus, whereas each person needs about 2,500 calories each day, the average supply was 2,984. Had the distribution of nutrients been even, therefore, the position would have been satisfactory. But, as everyone knows, there have been glaring inequalities in distribution. According to Sir John Boyd Orr, the average consumption for each income group rose gradually from 2,317 calories in the lowest group of six, to 3,326 in the highest.² It is impossible to make a reasonably accurate estimate of wastage for each of these groups, but, even so, Orr's figures clearly indicate that those in the lowest income groups were grossly under-nourished and that the well-paid group consumed far more than is necessary.

So far, the only form of wastage which we have taken into account is the wastage of edible food in the home. When food is bought in the shop, however, it often contains a proportion of inedible matter which has to be considered as waste whenever a figure is used which refers to food purchases. Inside the shop and during distribution to the shop there is additional wastage, which has to be taken into account when considering total food supplies (e.g., columns 1 and 2 of Table V). Much statistical confusion has been caused in the past by attempts to compare the four different categories of food—food supplies, food purchases, edible parts of food purchases and food actually eaten. It is not possible to state accurately the wastage incurred in the distribution, etc., of the various types of food, but the following table

¹ Roberts, *op. cit.*

² J. B. Orr, *Food, Health and Income*, London, 1937.

gives a rough indication, for the purpose of this chapter, of wastage at the different stages.

Type of food.	Food consumption.		
	Edible parts.	Food purchased.	Food supplies.
Meat . . .	80	100	120
Fish . . .	66	100	133
Potatoes . . .	80	100	105
Vegetables . . .	75	100	110
Fruit . . .	80	100	110

Bread and Cereals.

The consumption of bread and other cereals has fallen during the last fifty years by about one-fifth in Great Britain and one-third in the United States, a trend which has been hailed by many as indicating a rising standard of living. In the years before the war knowledge of the importance of the protective foods gradually spread among the public. The inferiority of white bread, as far as vitamins and certain minerals were concerned, became more generally known. By about 1937 the "white bread versus brown bread" controversy was in full swing,¹ and subsequently urgent appeals to remedy the situation were made in the United States at conferences held under the Milbank Memorial Fund in 1938 and 1939.²

Millers and bakers in both countries soon realized that once the public was aware of the poor nutritional qualities of white bread it would respond by eating still less of it, and they decided to add vitamins to flour long before any official bodies had considered such action. The war made both Governments alive, however, to the dangers which a continued shortage of B-vitamins in the diet implied for the health of their peoples—and hence for the conduct of the war. The subsequent developments are now well known. Measures taken early in the war by the British Government to add vitamin B₁ to white flour were rescinded in 1942, mainly, it seems, to save shipping space, and the result was the National Loaf, baked from flour of 85% extraction. The United States, on the other hand, developed a complicated system of "enriching" white flour with several vitamins and minerals in pure form. "Enrichment" has been condemned on nutritional

¹ H. Z. Baker, M.D. Wright, and Sir J. C. Drummond, "The Nutritive Value of Bread," *J. Soc. Chem. Ind.*, 1937, 56, 191; L. J. Harris, *Biochem. J.*, 1937, 81, 799.

² *Milbank Memorial Fund Quarterly*, 1939, 17, 220-50.

grounds by most experts on both sides of the Atlantic, and is widely regarded as a capitulation to the business interests of the millers and the vitamin manufacturers.

Bread is the cheapest source of calories, and, though this is not generally known, of protein also. Bread made from whole grain, while still retaining all its advantages as an energy food, is greatly superior to white bread in its content of vitamins of the B-group and in the larger amount and better biological quality of its proteins. It also contains more calcium and iron, but doubts have been expressed lately as to the availability of these minerals in "whole" cereals, as they form insoluble compounds with phytic acid. This disadvantage of "whole" flour is not a serious reason against its use, as is argued by the white-flour protagonists, because it can be simply remedied by adding chalk and iron sulphate to flour. The several advantages remain, by far the most important being those relating to B-vitamins. Sir J. C. Drummond has demonstrated¹ that the shortage of vitamin B₁ in modern diets is entirely due to the use of white flour. It is, indeed, impossible to secure an adequate intake of vitamins of the B-group without changing over from white bread to brown, or a bread of similar vitamin content. A calculation of the B₁ content in the diets of Sir John Orr's income groups has given the following results²:—

Income group:	I.	II.	III.	IV.	V.	VI.	Optimum requirements.
Vitamin-B ₁ (i.u.)	222	304	344	371	405	446	500

Use of wholemeal bread would add approximately 200 i.u. to each of these figures, and therefore bring the diets of all classes except the lowest above the optimum level—a fact which, curiously enough, the authors of this calculation omitted to mention.

Apart from a few foods, such as liver, yeast and eggs, the consumption of which must necessarily be limited, whole cereals are the only available source of most B-vitamins in our diet, and a day's ration of wholemeal bread will supply the greater part of the B₁ and nicotinic acid, and a substantial part of the riboflavin required, in addition to supplying large amounts of the other vitamins, the significance of which is not yet fully understood (see Table IV). Most, if not all, of the members of the B-complex assist in the full utilization of carbohydrates in the body, and the more carbohydrates the diet contains the larger is the quantity of

¹ J. C. Drummond and A. Wilbramson, *The Englishman's Food*, London, 1939.

² T. Moran and R. G. Booth, "An Analysis of the Vitamin B₁ Status of the Population of Great Britain," *Chem. and Ind.*, 1940, 533.

these vitamins required to deal with them. A diet rich in protein and fat requires less B₁ than one rich in starch. The largest amounts of carbohydrates, mainly as bread and potatoes, are eaten by the manual workers and the poor, and it is therefore of the utmost importance that the miner, the bricklayer and the agricultural worker should eat bread of the highest possible quality. Before the war, brown bread was more expensive than white bread, and was eaten almost exclusively by the well-to-do, as is shown by the following table: ¹

Class.	White Bread.	Brown Bread.	Ratio.
AA	37.902 oz.	10.1 oz.	3.7 : 1
A	38.703 „	9.5 „	4.1 : 1
B	41.202 „	8.4 „	4.9 : 1
C	51.502 „	3.4 „	15.1 : 1
D	60.302 „	2.1 „	28.7 : 1

A post-war bread policy should be directed towards retaining the necessary B-vitamins in bread. This need not necessarily lead to an exclusive consumption of wholemeal bread. Other methods of producing a flour rich in vitamins have been developed—e.g., using high-vitamin yeast in baking, adding dried milk to dough, or wet peeling of the wheat, dry milling (the Canadian method of producing a relatively white flour with high vitamin content), and the breeding of high-vitamin strains of wheat. Of all these methods, milling of a high-extraction flour will obviously be the simplest and cheapest, and we would suggest that such a bread should become the standard bread at the lowest possible price. Any other bread should be permitted only if a minimum vitamin content equal to that of the standard high-extraction bread were enforced by law and the extra costs borne by the consumers of such breads. With this provision, even white bread, supplemented by vitamins and minerals, might be produced on a limited scale for those prepared to pay more for it.

If the existence of a bread rich in vitamins can be taken for granted, bread will cease to be merely an energy food, and will have to be considered as a protective food as well. It will then be desirable to maintain consumption of it at the pre-war level. Consumption of bread in Great Britain was similar to that in most of the better-fed countries of the world, though lower than in France and higher than in the U.S.A. The food values of rye, barley and oats are similar to those of wheat, and for convenience all cereals are here treated together. Total annual consumption of

¹ W. Crawford and H. Broadley, *The People's Food*, London, 1938.

cereals in 1934-6 amounted to 4,418,000 tons¹—i.e., approximately 65 oz. per head per week. This quantity is about the same as in the cheaper Stiebeling and N.R.C. diets, and considerably lower than in the B.M.A. and the Canadian M.A. diets (see Table III). It is therefore suggested that the post-war consumption of cereals can be left at approximately the pre-war level, provided that steps are taken to ensure a supply of bread of the right quality.

* At present consumption is much higher than before the war. According to *Food Consumption Levels* cereal consumption went up from 64.7 oz. before the war to 76.7 oz. in 1943—i.e., by 17% (see Table II). A sample of fifty-seven middle-class women consumed 45.6 oz. of bread per week in 1943, compared with a consumption of 35.2 oz. by a similar sample in 1935.² In a Public School consumption increased from 45.6 oz. in 1936 to 71.2 oz. in 1942.³

Milk.

The unique position of milk in the diet is well known. Milk is the principal source of calcium and riboflavin, and one of the most important sources of animal protein and vitamins A and B₁. Recent reports on nutrition, including those of the League of Nations,⁴ the Advisory Committee on Nutrition of the Ministry of Health⁵ and the Hot Springs Conference⁶ are unanimous in their praise of milk. "Milk", says the Advisory Committee on Nutrition, "is of such outstanding value that the consumption of a sufficient quantity of it may be regarded as the key to proper nutrition."⁵ There is remarkable agreement that each person should have one pint per day, with additional allowances for children, nursing and expectant mothers and invalids. In the U.S.A., where the consumption is already near this mark, the tendency is now to strive for an average consumption of two pints. We can therefore fix our standard without hesitation at one pint per person per day, or, allowing for additions for the preferential classes, at about one gallon per week. It is not suggested that all this ought necessarily to be taken as "liquid" milk. Some may be consumed tinned or dried, and some as cream and separated

¹ *Food (Defence Plans) Department Report*, H.M.S.O., 1938.

² E. M. Widdowson and B. K. Alington, "Middle-class Diets in Peace and War," *Lancet*, September 27, 1941, p. 361.

³ E. M. Widdowson and R. A. McCance, "The War and School-boy's Food," *Lancet*, December 12, 1942, p. 698.

⁴ League of Nations Technical Commission, *Report on the Physiological Bases of Nutrition*, Geneva, 1935, 1936.

⁵ *Ministry of Health. Advisory Committee on Nutrition, 1st Report*, H.M.S.O., 1937.

⁶ *United Nations Conference on Food and Agriculture, Hot Springs, op. cit.*

milk. But it is urged that all separated milk should be used directly as human food, instead of feeding it to animals, or, worse, pouring it down the drains. This wastage of skimmed milk was sharply criticized in an official report.¹ Many experts have urged that separated milk ought to be sold to the public at a low price, as is done in other countries.

The pre-war policy of the Milk Marketing Board was to use the bulk of the summer surplus for industrial consumption and to subsidize this butter, cheese, confectionery, ice-cream, etc., by the higher price charged to the consumer of liquid milk. This short-sighted policy has made the retail price of milk in Britain one of the highest in the world, and the level of consumption one of the lowest among well-to-do nations. The prices paid before the war to producers and charged to the consumer in different countries are given in a report of the Food Council.²

	Eng- land.	Ger- many.	Hol- land.	Bel- gium.	Sweden.	France.	U.S.A.	
Paid to pro- ducer per gallon	17.5d.	11.4d.	8.1d.	6.6d.	7.5d.	5.8d.	8.7d.	—
Retail price per pint	3.5d.	2.8d.	2.1d.	1.6d.	1.7d.	1.6d.	Shop. 3.3d.	Delivery. 3.6d.

The same report also shows the rise in the retail price of liquid milk since the Marketing Board began to operate in 1933:

July:	1914.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.
	100	178	176	170	169	166	177	181	182	184	193

To reach the weekly target of one gallon per person, it will be necessary to raise production by about 150% and to consume directly every ounce of milk produced in this country. It will be essential to can or dry all seasonal and local surpluses. This policy of reducing industrial utilization has been adopted with great success during this war, and has led to a considerable all-round increase in consumption:—³

¹ *Milk*, Ministry of Agriculture and Fisheries, Economic Series, No. 44, H.M.S.O., 1936.

² *Food Council, Report for 1938*, H.M.S.O. The English price quoted is that for December 1938. The average pool price obtained by milk producers in England and Wales in the milk year October 1937–September 1938 was 12.92d.

³ J. L. Davies, *Chemistry and Industry*, January 8, 1944. Official figures of the pre-war and war consumption are given in Food Consumption Levels (Table II).

	% milk for industrial purposes.	Total liquid consumption, million gallons.	Pints per day per head.	Index.
1933-34 . . .	25	643	0.37	100
1935-37 . . .	33	673	0.38	103
1937-39 . . .	30	760	0.45	116
1942-43 . . .	11	1,016	0.58	157
May 1943 (rationing temporarily suspended)	—	—	0.65	176

To achieve the necessary increase in milk production, drastic and revolutionary steps will have to be taken. They are dealt with in other sections of this book. Equally drastic steps will have to be taken to raise consumption to the required level, among the most important being a considerable reduction in price. An experiment carried out by the Milk Marketing Board in 1936 has shown that the daily consumption of liquid milk among unemployed families in the Rhondda Valley rose from 0.23 to 0.32 pint per head after the price had been lowered from 3½d. and 3d. to 2d.¹ More impressive results were obtained in the U.S.A. (District of Columbia). When milk was made available at 5 cents a quart, 102 white families increased their weekly purchase from 0.98 to 2.89, and 219 negro families from 1.8 to 2.89 per person.²

In 1936, the Government's Report on Milk³ stated:

"To increase the consumption of liquid milk is one of the main objects of our recommendations, and the method by which this should be achieved consists primarily in lowering of liquid milk prices."

Milk is the first and foremost example of a food the price of which should be determined by the needs of the consumer rather than by economic considerations. Any gap between cost and price should be bridged by a subsidy, as is already done on a large scale under the National Milk Scheme.

All other Surveys (Orr,⁴ Crawford,⁵ Murray and Rutherford⁶) have shown that milk consumption rises steeply with a rise in

¹ Milk Marketing Board, *Five Years' Review*, 1933-38.

² H. K. Stiebeling, *et al.*, U.S. Dept. Agric. Circ. No. 645, pp. 28, May 1940.

³ Ministry of Agric. Fish. Econ. Ser., No. 44, H.M.S.O., 1936, p. 279.

⁴ J. B. Orr, *Food, Health and Income*, London, 1937.

⁵ W. Crawford and H. Broadley, *The People's Food*, London, 1938.

⁶ K. A. H. Murray and R. S. Rutherford, *Milk Consumption Habits*, Oxford Agric. Econ. Res. Inst., 1941.

purchasing power and that consumption is satisfactory only in the highest-income groups. This again suggests that the price is the decisive obstacle to higher consumption, and Murray's view¹ that "the biggest obstacles are antipathy, indifference and prejudice" can no longer be maintained. During the present war a combination of factors—viz., rationing, a rise of purchasing power, the subsidy and a shortage of other foods—has led to a remarkable increase in "popular" consumption. In the formerly "depressed areas" alone it has risen twofold, or even threefold, while in the comfortable rentier towns it has actually fallen:—

Estimated Milk Consumption in Certain Towns of England

	Pints per head per day.	
	November 1935.	November 1943.
Newcastle	0·25	0·50
Jarrow	0·15	0·48
Wallsend	0·12	0·53
Hull	0·27	0·54
Harrogate	0·53	0·41
Salisbury	0·53	0·42

(Ministry of Food figures, 1944.)

Vegetables.

Green and yellow vegetables and potatoes are one of the most important sources of vitamins A and C in our diet, provided that sufficient quantities are eaten and as little vitamin C as possible is destroyed during storage and preparation. One helping of carrots may supply more than a whole day's requirement of vitamin A (5,000 i.u.), and one of brussels-sprouts will contain most of a full daily ration of vitamin C (35 mg.).² All green vegetables are not as good as sprouts, but one portion of any one of them will supply a substantial part of the daily needs for vitamin C. Even under the unfavourable conditions of large-scale cooking—e.g., in British Restaurants—average helpings of cabbage (3 ozs.) contain 20–30 mg. of vitamin C.³

"The presence or absence of green vegetables is the single most potent factor influencing the vitamin C content of the meals. Of 36 Restaurants visited in April, the average vitamin

¹ K. A. H. Murray, *Milk Consumption*, Agric. Econ. Res. Inst., 1937.

² The figure of 71 mg., given in *Food Consumption Levels*, is considered by many as unnecessarily high.

³ R. G. Booth, *et al.*, "Ascorbic Acid in Meals at British Restaurants and School Canteens," *Lancet*, November 14, 1942, p. 569.

C in the meals of the 22 serving greens was 34 mg., while the 14 not serving greens only supplied an average of 11 mg."¹

Similar findings have come from a survey made in a trawler:—

"In spite of the daily high consumption of potatoes, a satisfactory intake of vitamin C was attained only when other vegetables such as turnips or greens were included in the diet."²

In the home, cooking conditions are more favourable for the preservation of vitamin C, and the bulk of one day's requirements can easily be secured from green vegetables and potatoes in a single meal.

The importance of green vegetables as a source of vitamin A is still somewhat uncertain. According to one recent statement,³ an average helping of green vegetables contains as much as 1,300 i.u.'s of vitamin A; but quantities of this order seem to apply only to very green vegetables, like spinach, kale and turnip tops.⁴ There are only about 300 and 140 units, respectively, per helping of cabbage and sprouts. The carrot is quite exceptional, in containing several thousand units per helping, but most roots, including the potato, have none at all.

Potatoes contain less vitamin C than some of the green vegetables; this vitamin is appreciably reduced by storage, and some of it is destroyed by mashing and cooking. The average contribution of potatoes to the vitamin C content of a meal in some British Restaurants has been estimated at only 3–4 mg.,⁵ but in other British Restaurants and in School Canteens it has been as high as 10 mg.⁶ Even so, the importance of the potato as a source of vitamin C can hardly be over-estimated. What the potato lacks in concentration is made up by the quantities eaten, especially in the diet of the poor, who cannot afford adequate supplies of fruit and vegetables. The disappearance of scurvy from Europe since the eighteenth century is almost certainly entirely due to the introduction of the potato. Failure in the potato crop, as during the "hungry 'forties" in Ireland and Scotland, and during a potato shortage in Glasgow, the Tyneside and Manchester in 1917, led to outbreaks of scurvy. It was mainly the potato which saved this country from scurvy when early in the late war fruit largely disappeared from the market.

Figures giving the consumption of vegetables in Great Britain are difficult to collect and difficult to interpret. This is

¹ M. Pyke, "Food Supplies for Collective Feeding," *Proc. Nutrit. Soc.*, 1944, 1, 92–97.

² Booth, *op. cit.*

³ Pyke, *op. cit.*

⁴ *Ibid.*

⁵ Medical Research Council, *op. cit.*

⁶ Booth, *op. cit.*

due to the great variety of vegetables in use, the unavoidable losses on the way from the farm to the shop and from the shop to the consumer's plate, seasonable variations in food value and the amount of crops grown in back-gardens and allotments, which is uncertain and cannot be accurately dealt with by statistics. All observers agree that consumption in most households is small. None of the recent large-scale surveys—those of Orr, Crawford, Brassey and the Ministry of Labour—deals with vegetables in terms of quantities. In the Orr survey figures ranging from 16 oz. for the lowest and 34 oz. for the highest-income class have been estimated on an expenditure basis, with allowances for quality variations, but the figures are subject to a wide margin of error. Crawford also shows how vegetable consumption is connected with social status, without making any attempt to translate his figures into quantities.

Social Class:	AA.	A.	B.	C.	D.
Amount spent per head per week (pence)	16.4	12.7	9.7	7.4	6.2

The Ministry of Labour survey (1937-8)¹ gives a weekly expenditure of 7½d. on green vegetables, 5½d. on roots, 1½d. on onions and leeks and 1½d. on canned and bottled vegetables, for the average household of 3½ persons. The sum total would buy at the most 7 lb. of vegetables, or approximately 24 oz. per head. This was supplemented by a negligible quantity of ¼ lb. cabbage and 1½ lb. potatoes per household grown on allotments. An agricultural worker's family of the same size spent only 1½d. per week on green vegetables and 2½d. on roots. This was supplemented by as little as 1 lb. of cabbage from their own garden and presumably minimum quantities of other vegetables. A later survey of the middle classes² gives the following expenditure figures for an average household of 3½ persons: cabbage and green vegetables 4½d., fresh beans and peas 2d., lettuce, salad, etc., 2½d., potatoes 5½d., roots 3½d., onions and leeks 1½d., canned and bottled vegetables 2½d. This is only a little more than working-class expenditure, and amounts perhaps to purchases of 30 oz. per head per week. According to a previous survey,³ middle-class women in 1936 had on the average only 13.9 oz. of *boiled* vegetables per week—i.e., one tiny helping per day.

As to total consumption, the most detailed estimates are those

¹ *Ministry of Labour Gazette*, December 1940, January 1941, "Weekly Expenditure of Working-Class Households in the United Kingdom in 1937-38."

² Massey, "The Expenditure of 1,360 British middle-class Households in 1938-39," *J. R. Statist. Soc.*, 1942.

³ E. M. Widdowson and B. K. Alington, *op. cit.*

published by the Food (Defence) Department (1938).¹ Taking into account allotment and private garden produce, and including tomatoes, rhubarb and preserved vegetables, the overall figure is 2,330,000 tons, of which 482,000 tons were imported. According to two investigators,² dietary surveys indicate a home consumption of about 1,850,000 tons. The difference between the two figures may be accounted for by wastage in distribution. The latter gives an average weekly consumption in terms of purchases of about 28 oz. As perhaps 25% has to be discarded as inedible, it is unlikely that the British people, before the war, ate more than 21 oz. of vegetables per head per week. (It is impossible to reconcile these figures with those published recently in *Food Consumption Levels*, according to which total consumption of vegetables amounted on the same basis to 45.4 oz.) During the war consumption enormously increased in spite of the loss of imports. According to figures released by the Ministry of Agriculture³ the acreage of cabbage and kindred crops has increased by 51%, carrots by 118%, tomatoes growing in the open by 2,300%, lettuce by 27%, and green peas for canning by 331%, since the outbreak of war. It is estimated that middle-class women ate 21.3 oz. of vegetables in 1942, as against 13.9 oz. in 1935.⁴ *Food Consumption Levels* estimates an increase in consumption during the war of 33% (Table II).

What level of consumption should we aim at? It is difficult, if not impossible, to reconcile all the figures suggested by other writers. (See Table III.) We can no longer be satisfied with levels at and below 30 oz., which were devised for cheap diets. H. K. Stiebeling's original recommendation in 1933 that 24.6, 30.7 and 41.4 oz. of green and yellow vegetables should be allowed for diets of three different costs, has later been modified (1939), and quantities of 49.2, 55.4 and 55.4 oz. respectively are now suggested. The Canadian Medical Association recommends as much as 77 oz. The N.R.C. bases its recommendations on an assumption of two or more portions a day, one of which should be green or yellow. Instructions given to British Restaurants and similar institutions speak of three portions of green vegetables to be eked out of every pound purchased.⁵ The Board of Education, in a pamphlet on War-time Diets in Boarding-schools, has recommended that each child over ten years of age should have each week 8½ lb. of potatoes, 1½ lb. of green vegetables and 14 oz. of carrots. This would give a total of 42 oz. for green vege-

¹ *Food (Defence Plans) Dept. Report*, H.M.S.O., 1938.

² J. B. Orr and D. Lubbock, *Feeding the People in Wartime*, 1940.

³ October 18, 1944.

⁴ E. M. Widdowson and B. K. Alington, *op. cit.*

⁵ *Community Feeding in War-time*, H.M.S.O., 1941.

tables and carrots alone.¹ In a later circular on School Meals² the following amounts of vegetables which need to be purchased in order to allow sufficient for 100 portions are given:—

	Total (lb.).	Ozs. per portion.
Potatoes	50	8
Brussels sprouts	28	4·5
Cabbage	28	4·5
Carrots	22	3·5
Spring greens	20-24	3·2-3·8

From these independent proposals it may be concluded that at least 4 oz. of green and yellow vegetables should be eaten every day. This will ensure much of the daily vitamin C requirement. In addition, a small quantity (say 2 oz.) of another vegetable, which may be a root or a salad, should be provided for. To enable 6 oz. of vegetables to be consumed each day, about 10 oz. must be produced, and the amount required to be purchased by the whole population comes to 4,800,000 tons of vegetables annually, which is approximately twice the amount available before the war. To provide vegetables of satisfactory quality and quantity all the year round is one of the main tasks of British agriculture in the post-war period, second in importance only to milk production. To make the best possible use of them, methods of processing, storing, marketing and cooking will have to be greatly improved. Probably all the requirements could be met from crops grown at home on farms and in market-gardens, but it would be desirable to keep the war-time interest in allotments alive.

The food value of the potato has in recent years been increasingly appreciated. Apart from being an energy food, it supplies substantial amounts of iron, vitamin C and B₁ (see Table IV). The level of consumption was satisfactory before the war when measured by modern standards, though twice as much was eaten in France, Belgium and Germany as in Great Britain. It was in excess of the quantities recommended by Stiebeling and the National Research Council, and conformed to the League of Nations and Canadian Medical Association standards. There is no ground, therefore, for a substantial change in potato consumption, though local increases would be desirable—for example, in boarding-schools, where the potato has been de-

¹ Board of Education, *The Schools in War-time*, Memo. No. 34, *War-time Diet in Boarding Schools*, H.M.S.O., 1941.

² Board of Education, Circular 1534, February 24, 1942, *School Meals: Specimen Dietary for School Dinners*, H.M.S.O.

plorably neglected. The standard to be aimed at should be about 9 oz. a day, which can be easily produced at home. In war-time far greater quantities were eaten. According to *Food Consumption Levels* consumption increased by 44% during the war, and in 1943 amounted to 78.7 oz. (see Table II). Middle-class women who ate on the average only 21 oz. in 1935 took an increased amount of 33 oz. in 1941.¹ In one public school the potato ration rose from 36.7 oz. in 1937 to 59 oz. in 1942.² Even this compares unfavourably with the Board of Education's suggested level of 8½ lb. per head per week in boarding-schools. According to the Ministry of Agriculture's figures³ the potato acreage more than doubled during the war, and is now greater than at any time in the history of this country.

Nothing has yet been said about dried pulse vegetables, which are now so often extolled for their excellent food value. It is true that they give good value for money and are cheap sources of protein and of energy-giving substances. They are theoretically a good source of iron and the B vitamins (see Table IV); but the quantities in which they are likely to be eaten are small, and their place in the national diet will not be important even if consumption is raised by 50% (see Table IV). As these foods are chiefly imported, we need not take them into serious consideration here.

Fruit.

Fruit, like vegetables, milk and meat, is consumed in quantities largely determined by the family's financial resources. Obviously most people need not be persuaded to "eat more fruit" if only they can afford it. From a dietetic point of view the main virtue of fruit lies in its vitamin C content. Yet it is not sufficiently known that individual fruits differ very widely in this respect. While an average helping (4 oz.) of citrus fruit, soft fruit (most berries) or tomatoes will supply all or a substantial part of a full day's requirements of vitamin C (30-50 mg.), other fruits, including apples, plums and pears, which are unfortunately the most common kinds of fruit in this country, are almost completely devoid of it. The same is true of vitamin A. Only tomatoes, peaches and apricots contain large quantities of it. That these wide differences exist is no reason, however, for not eating the less "protective" types. Fruit in general gives variety and palatability to our diet, and should not be judged solely on nutritional grounds.

The B.M.A. diet, which is a minimum cost diet, allows only a

¹ Widdowson and Alington, *op. cit.*

² Widdowson and McCance, *op. cit.*

³ October 18, 1944.

negligible expenditure on fruit (about 3d. per person per week). The League of Nations figure of 17.9 oz. a week seems low, but refers only to oranges and tomatoes. And the Canadian Medical Association diet allows for fruit as a whole only 25.6 oz. The original diets proposed by Stiebeling and the N.R.C. distinguish between fruits rich in vitamin C and other fruits and vegetables (80% of which were in fact fruit). The N.R.C. gives what is perhaps the best guide to future policy. It is proposed that each person should have each day one helping of fruit rich in vitamin C and one other besides. Assuming that each helping weighs 4 oz., weekly consumption would amount to 56 oz. of fruit per person.

In making estimates of actual fruit consumption we encounter technical difficulties similar to those already described in the section on vegetables. In both the Orr and Crawford surveys consumption has had to be estimated on an expenditure basis. Orr's estimates are as follows:—

Weekly fruit consumption.	Income class.						Weighted average.	
	I.	II.	III.	IV.	V.	VI.		
Amount (ozs.)	14	21.7	25.8	27.9	30.5	39.3	26.5	35 *
Expenditure (d.)	2.4	4.5	6.6	9.5	13.0	20.0	9	11.7 *

* Includes fruit used industrially (estimated at 25% of total consumption).

The Ministry of Labour's survey¹ indicates that a working-class family of 3½ persons spent before the war 17.5d. on fresh and canned fruit and consumed 3.8 oranges, 2.9 bananas and 1.2 lb. of apples each week—in all something between 20 and 24 oz. per head. Small as these figures are, they are still much in excess of what agricultural labourers used to consume. It is estimated in the same survey² that an agricultural family of 3½ persons spent only 8½d. on fresh and canned fruit and consumed a total of 2½ oranges, 1½ bananas and ½ lb. apples. According to Massey's survey, middle-class families of a slightly smaller average size (3½ persons) had an average expenditure on fruit of 31½d. This is almost twice as much as the equivalent expenditure by the working class, and in quantities may have amounted to 40 oz. per head. Total fruit consumption before the war averaged 35 oz. per head, according to *Food Consumption Levels*. If 25% is deducted for industrial consumption, the average purchases of fruit per head cannot have amounted to more than 27 oz. This tallies with an estimate by the Imperial Economic Committee (Fruit Supplies, 1936), which is 27.4 oz. Taking these

¹ *Ministry of Labour Gazette*, December 1940.

² *Ibid.*, January 1941.

estimates and calculations for what they are worth, it appears that the average national consumption of fresh fruit, excluding that used industrially, cannot have been more than half the amount required under the National Research Council recommendations.

As total fruit supplies were estimated to be about 2,400,000 tons before the war, we should aim at a post-war total of roughly 4,800,000 tons. No recommendations can be made here as to how this total should be made up from different kinds of fruit, nor as to what quantities it would be desirable to import. Citrus fruits and bananas must, of course, be imported, and in much larger quantities than before the war. Both apples and plums can be grown at home if necessary. This much is certain, however; in future most attention ought to be paid to increasing the consumption of fruits rich in vitamin C. Our future policy for home production of fruit should as a result be directed largely towards increasing the supply of soft fruit and tomatoes.

Meat

The pre-war level of meat consumption in Great Britain was high compared with that of most other countries. According to surveys by Orr and Crawford, consumption depended to a great extent on income. Those who could afford it usually ate sufficient meat. If we exclude the lowest-income group, the vast majority—perhaps 90% of the population—ate meat in quantities exceeding those recommended by dietary experts (see Tables II and III).

Opinions differ concerning the average level of weekly consumption. From an analysis of total supplies it has been estimated at 34.6 oz. of "edible weight".¹ This weight includes the inedible parts bought by the consumer, but excludes poultry (1.3 oz.) and game and rabbits (1.1 oz.). The Orr Survey, on the other hand, arrived at a figure of only 24.8 oz., excluding consumption outside the homes, and as it was considered to be too low, the real consumption was assumed to be 38.2 oz. Crawford found that the quantity of meat bought weekly per head varied between five social classes as follows: 30.4 oz., 34.6 oz., 43.1 oz., 49.5 oz., 50.3 oz. The national average he estimated at 36.5 oz. Working-class households consumed on the average only 26 oz. of meat (excluding offals and sausages).² These figures from different sources can perhaps be collated in the following manner:—

Pre-War Meat Consumption in Great Britain per Head per Week

Total supply	45 oz. (20% of which is shop wastage).
Supply as bought	36 oz. (20% of which is kitchen wastage).
Supply as eaten	28 oz. (i.e., 4 oz. per day).

¹ *Food Consumption Levels*, op. cit.

² *Ministry of Labour Gazette*, December 1940.

The standards proposed by most experts (see Table III) seem to be based on a daily consumption of 4 oz.—i.e., one helping of average size at a main meal. The estimated figures include the consumption of fish, and as they are given for quantities bought, not those actually eaten, it is clear that meat consumption in Britain before the war already exceeded the recommended level. We do not wish to suggest, as some have done,¹ that total meat consumption should be reduced. If, as we anticipate, the purchasing power for the lowest-paid members of the community continues to rise progressively, they will certainly eat more meat, as most people like meat. The higher-paid groups will probably eat increasingly less meat, as they have already been partaking less for some considerable time. Allowing for some redistribution in consumption (which is almost bound to come), the total meat consumption will remain at very much the same level as before the war. An increase of 25%, which has been suggested by a group of Peers,² is not warranted.

The choice of meat as between beef, mutton, pork, ham and bacon is determined mainly by the type of agriculture predominating in each locality, by political and economic conditions and by dietary habits. It is natural that beef should be widely eaten in the Argentine, mutton in Australia and New Zealand and pig-meat in Germany and the United States. Thus there is no need for us to aim at a distribution recommended, say, for American conditions by American experts. From the nutritional point of view there is little to choose between different kinds of meat. Claims, of course, have been made that mutton is particularly digestible, and pork and veal are particularly indigestible, but they are based on little scientific evidence. In fact all meats can be digested very easily. Their chief contributions to the normal diet are first-class protein, nicotinic acid, riboflavin and iron (see Table IV). Pig-meat is unique in possessing large quantities of vitamin B₁, but if bread of high extraction is eaten, this distinction is of no great importance. Most offals, especially liver, kidney and brain, contain very large amounts of the B vitamins, and liver is also very rich in vitamin A. Their consumption should therefore be widely encouraged.

Fish

Fish are a most valuable source of first-class protein, and the "fatty" fish are, in addition, an important source of vitamin D.

¹ N. C. Wright, "The Potential Contribution of Milk, Meat and Eggs to the British Diet," *Proc. Nutrit. Soc.*, 1944, 1, 67-75.

² Group of Peers, *A Post-War Agricultural Policy for Great Britain*, February 1943.

For a country surrounded by water and possessing the largest fishing fleet in the world, Britain's fish consumption is deplorably small, and the wastage caused by throwing catches back into the sea or making them into fishmeal is unnecessarily high. A discussion of the dietary importance of fish is not exactly within the province of this book, but in planning the people's food supply it would be unjustifiable to leave such an important item out of consideration. Owing to the austerity of war-time restrictions, fishing is almost bound to be a profitable occupation for several years after the war. It may in consequence relieve some of the strain which is likely to be imposed on agriculture during the difficult transition period when food will be scarce and millions of people starving abroad.

Recent surveys have shown considerable variation between results in the analysis of fish consumption. Crawford's weekly average of 6.8 oz. per head is, for instance, much greater than Orr's average of 4.6 oz., though the latter excludes dried and tinned fish. *Food Consumption Levels* have a still higher estimate—viz., 7.8 oz.

Experts believe that no great and permanent increase in the supply of white fish can be expected, as the fishing-grounds were already being used beyond capacity in pre-war days, but they anticipate that the herring catch can easily be doubled.¹ If this is done, and a good deal of unnecessary waste is eliminated, it seems possible, as well as desirable, to raise the consumption of fish by about 50%—i.e., to increase the average quantity bought from 7 oz. to 10.5 oz. As more than 40% of this quantity is likely to be wasted, the total amount of fish eaten will still be less than 1 oz. a day.

Cheese

Cheese is the cheapest source of first-class protein in our diet, and as a source of calcium it is second only to milk. In cheese manufacture, however, most of the vitamins soluble in water, especially B₁ and riboflavin, are lost with the whey, and the practice of feeding whey to pigs only partly compensates for this loss. It is important that this should be known, as an appreciable increase in our cheese consumption has been recommended as one way of raising the total level of milk consumption. Housewives, it has been argued, would have difficulties in disposing of more than one pint of milk per head per day, and any further increase would have to be consumed in the form of cheese.

Before the war much less cheese was eaten in Britain (the

¹ J. A. Lovern, "The Potential Contribution of Fish to the British Diet," *Proc. Nutrition Soc.*, 1944, 1, 76-80.

average weekly level being 2.7 oz. per head) than in certain other countries, especially Switzerland (5.7 oz.), Holland (4.3 oz.), France (3.8 oz.), and Germany (3.9 oz.), and it is highly desirable to raise the level of consumption considerably. How this can be done is not quite clear. Cheese was cheap enough before the outbreak of war, and its consumption was not much affected by size of income. According to the Ministry of Labour survey, the average working-class family ate about as much cheese as did the average well-to-do family in Orr's Group VI. As for the optimum quantity which should be consumed, unfortunately both Stiebeling and the League of Nations estimates include cheese in the milk ration. However, if we accept an estimate¹ based on the League of Nations Committee's stipulations, cheese consumption would have to be approximately doubled in future (see Table III). It is extremely doubtful whether this increase is attainable, and it may be more practical to reckon with an average consumption of 4.5 oz. This amount is almost identical with the Canadian Medical Association's recommendations. Total consumption would thereby be raised by more than 50%.

Although cheese production is much less wasteful than butter production, it is unlikely that for many years to come any milk will be available for home-produced cheese. If, as we suggest, all milk is sold at the most economical price, and no special price is permissible for manufacturers, cheese production will inevitably come to an end in this country for some time at least, except for a few luxury cheeses sold at prices for which there will always be a limited market, both at home and abroad. Before the war less than one-third of the cheese we ate was produced at home, and the bulk of our imports came from New Zealand and Canada. Whether an increase in milk production for cheese-making will be possible in these countries is perhaps doubtful in view of the shortage of milk in most parts of the world; but it seems feasible, and even desirable, to divert milk from butter to cheese-making. In New Zealand and Denmark, our chief sources of butter, the skimmed milk left over has normally been utilized to a large extent for pig-feeding. From the nutritional viewpoint this practice is altogether wasteful, and a much better use of the nutrients in milk could be made if they were consumed in the form of cheese.

Butter and Margarine

The total consumption of fat in British diets before the war was satisfactory. Butter consumption was much higher than in most other countries, even including the U.S.A. This was due in part

¹ N. C. Wright, *op. cit.*

to an artificially low price, and this in turn was the result of national and international tariff policies, which are not likely to return at present. The war itself has stimulated the replacement of butter by margarine, thus reinforcing a tendency which has already existed for many years in every other country. In the immediate post-war years, with prospects of smaller supplies and higher prices, it is probable that less butter and more margarine will be eaten than before 1939. As an enjoyable item in our food we shall regret, no doubt, the loss of butter, but we shall not necessarily be worse off from the standpoint of nutrition. In spite of the many efforts made, no conclusive evidence has yet been produced to show that butter is nutritionally superior to the high-grade margarine now in use,¹ provided that vitamins are added to it in sufficient quantities. Even before the war vitamins were being introduced on a small scale by certain manufacturers, and it became a compulsory measure in the early days of the war. To every ounce 550 i.u. of vitamin A are now added—i.e., nearly half the amount which, according to the National Research Council tables, exists in the same quantity of butter (1,136 i.u.) There is actually more vitamin A in war-time margarine than in "winter butter". A shortage in the diet of this vitamin is perhaps the most difficult of all to remedy. If the amount required in the future is anything like the figure postulated by experts (viz., 4,664 i.u. per day), we cannot lightly dispense with the extra amount which ordinary butter provides. An obvious solution, however, is to increase the vitamin A content of margarine to a proportion equal to that of butter. As for vitamin D, ordinary butter contains less than one-third of the amount which is now being added to margarine. It is thus of the utmost importance that the addition of both vitamins to margarine should remain compulsory.

For reasons already pointed out, it is highly improbable that any home-produced liquid milk will be available for butter-making for the present, and we shall have to look abroad for our supplies to an even greater extent than before the war. It is doubtful, too, whether overseas supplies will be available in their recent war-time quantities, even if we are prepared to pay high prices for them, and, as already stated, it will be much preferable, on nutritional grounds, to import at least some excess milk in the form of cheese. There would be less need for discrimination against butter manufacture if the skimmed milk were used directly for human consumption, preferably dried or tinned. But a policy which would give butter to the rich and skimmed

¹ Council on Food and Nutrition, "The Comparative Nutritional Value of Butter and Oleomargarine," *Jour. Amer. Med. Assoc.*, 1942, 119, 425-7.

milk to the poor has not much to recommend it, either in the national or international sphere.

Eggs

Eggs contain good supplies of animal protein, iron, vitamins A and D and vitamins of the B complex; however, only a small proportion of our daily requirements of these is provided by one egg (Table IV), and the cost of making them available in the form of eggs instead of other foods is high. In an economical diet there is no place for eggs, and the B.M.A. has almost completely excluded them. Most of the economical diets which have been proposed so far allow for only half an egg per person per day, which is about the pre-war average. Consequently there is no necessity to plead for increases in egg consumption on the ground of economy or nutrition. There are, nevertheless, important reasons why more eggs should be eaten. The egg is palatable, has a variety of uses in cookery, and is very popular, especially with children. The over-riding difficulty may well be one of supply. Before the war nearly half our eggs were imported, chiefly from "occupied countries", such as the Low Countries and Poland, and these sources will now be closed for many years to come. The ease with which eggs are produced in "backyards" by the use of household scraps should not allow us to forget that large-scale egg production depends almost entirely on the use of cereals for feeding purposes, and it is by no means certain that these cereals will be available in their pre-war quantities. If, as is to be hoped, the large quantities of liquid eggs which used to be imported from China will in the near future be eaten by the starving people of that country, this source of supply will also temporarily cease. Lastly, there is a good case for using surplus home-grown cereals to feed cows and pigs rather than poultry.

It follows that we shall be fortunate if we are able to maintain our pre-war level of egg consumption in the next few years. An increase of up to 100% would be desirable, but not so much on nutritional grounds as for reasons of variety and palatability. In the interests of commercial poultry-breeders, especially the smallholder, the poultry industry's future prospects will have to be studied very carefully if serious disappointment and financial losses are to be avoided.

Sugar

Sugar consumption in Great Britain was higher than in most other countries before the war; indeed, higher than most experts consider to be good for us. The National Research Council

recommends a quantity of roughly half the amount we used to eat. Sugar is a concentrated and cheap source of energy, but it is entirely lacking in vitamins and minerals. This deficiency is serious in so far as the B vitamins are concerned, because they are required in the metabolism of sugar, and have to be made up from the rest of our diet when sugar is eaten. However, it will be difficult to cut down consumption, especially as sugar figures so prominently in the diet of the poor. Most of our sugar used to come from abroad, and as we are of the opinion that no more should be grown here in future, we need not discuss the problem of sugar consumption in greater detail.

Conclusions

The changes which we regard as necessary to bring our food supplies into line with the new nutritional standards are set out in Table V¹ alongside corresponding proposals for Britain and the United States which have been made by other authors. The main features of this programme are as follows:—

- (1) The milk supply should be more than doubled.
- (2) Vegetables and fruit supplies should be doubled.
- (3) Supplies of cheese and fish should be increased by 50%.
- (4) No changes are necessary in the amounts of cereals, meat and potatoes supplied.
- (5) Supplies of sugar and butter may be allowed to decrease.

The official encouragement given during the war to increased consumption of milk and vegetables has provided a useful start in the right direction. And the provision of bread rich in minerals and vitamins of the B complex has been of almost equal importance, although this step has affected quality rather than quantity.

Our proposals differ considerably from the conclusions arrived at recently by a group of Peers,² and resemble more closely the changes necessary to bring everybody's diet up to the standard of Orr's highest group (VI). The chief cause of malnutrition is undoubtedly poverty. This fact is now becoming more widely recognized, as the following quotation from an official document suggests³:—

“Where the sharing of food among the people of a country is left to the free play of economic forces operating through ordinary market mechanisms, there are many factors (poverty, inequality of opportunity, difference in size of family, marketing imperfections, consumer ignorance, etc.) which tend to produce

¹ See p. 76. ² Group of Peers, *op. cit.* ³ *Food Consumption Levels*, *op. cit.*

a pattern of distribution which may be inconsistent with the objective of satisfying need in order of their urgency or importance."

The official mind works in its own mysterious way and expresses itself in its own peculiar jargon. But the conclusion reached in this quotation, once it is stripped of its verbiage, is the only one an objective examination of the problems of our nutritional requirements permits. *Laissez-faire* capitalism left us a Britain in which more than half the population was suffering from a degree of malnutrition which was constantly liable to affect health, happiness and efficiency. The remedy is to restrict and redirect those "economic forces operating through ordinary market mechanism", so that consumer-needs are made the basis of producer-supplies. A Socialist technique of price-management can be devised to do this. Its implications and mode of operation are discussed in some detail in the next chapter.

TABLE I.—*Estimated Supply of Nutrients Available in Great Britain per Head per Day*
(From Food Consumption Levels.)

	Pre-war.	1943.	Percentage change 1943 compared with pre-war.	Estimated requirements.
Calories	2,984	2,827	-5	2,546
Protein (gm.) total	81	87	+7	64.6
Animal	43	40	-7	—
Vegetable	38	47	+23	—
Fat (gm.)	130	113	-13	Not known
Carbohydrate	373	366	-2	—
Calcium (mg.)	694	1,054	+52	910
Iron (mg.)	13	16	+27	11.7
Vitamin A (i.u.)	3,868	3,882	No change	4,664
Vitamin C (mg.)	112(35) *	117(40) *	+13	71
Thiamin (B ₁) (mg.)	1.2	1.9	+60	1.47
Riboflavin (mg.)	1.6	2.9	+30	2.2
Nicotinic acid (mg.)	18	19	+3	14.7

* Probable intake in brackets, after allowing for destruction during cooking, etc.

TABLE II.—*Food Consumption (oz.) per Head per Week in Great Britain.*

Weights as purchased.

	The very poor.		Ministry of Labour ^a working-class households.		Lower middle-class.		Well-to-do middle-class.	Food Consumption Levels. ^a		
	Orr Group I.	Crawford Class D.	Urban.		Crawford Class C.	Orr Group III.		1934-8.	1943.	
									“ change	
Flour, cereals	66.0	61.3 ^b	64	79.3	65.5 ^b	68.0	60	64.9	76.6	+17
All meat	23.1	30.4	26 ^c	23.6 ^c	34.6	37.1	49.4	34.6 ^c	26.5 ^d	-24
Fish	2.7	4.8	—	—	6.1	8.2	13.5	7.6	4.6	-40
Milk (liquid only)	1.1	1.6	3.0	2.8	2.6	2.6	5.5	3.3	4.5	+34
pts.										
Tinned, dried (liquid equiv.) pts.										
Cheese.	0.7	0.6	—	—	0.3	0.55	0.3	0.6	0.6	+34
Fats and oils:	1.8	2.1	3.0	3.8	2.7	3.1	2.6	2.7	3.7	-16
Butter	—	—	—	—	—	—	—	14.0	11.9	-69
Margarine.	3.0	4.5	7.7	6.7	7.2	7.5	11.0	7.6	2.4	+92
Lard	4.5	3.7	3	3.4	2.1	2.5	1.3	2.8	3.1	+27
Eggs, nos.	2.7	2.0	2.1	2.5	2.6	4.2	3.5	2.9	3.6	-4
Potatoes	1.5	2.6	3.7	2.9	3.8	2.6	1.5	3.7 ^e	3.5 ^{f,g}	+41
Vegetables (fresh and canned)	53.0	61.6	59	73.8	61.6	57.0	54	54.5	78.7	+33
Fruit (fresh and canned)	(16.0)	[30]	[24] ^f	[10] ^f	[33] ^f	(27.2) ^f	(34) ^f	45.4	60.5	+50
Dried pulses	(14.0)	[10]	[20-24] ^f	[10] ^f	[11] ^f	(25.8) ^f	(39.3) ^f	33.2 ^f	15.0 ^f	-51
Sugar.	—	—	—	—	—	—	—	2.2	1.1	-31
	19.5 ^g	15.2 ^g	20 ^g	24.9 ^g	16.8 ^g	18.0 ^g	19.5 ^g	27.5 ^g	19.0 ^g	

Figures in brackets are estimated from expenditure; () estimated by Orr; [] own estimates.

^a Recalculated. ^b Bread and flour only. ^c Excluding offals and sausages. ^d Including industrial consumption. ^e Bought as such. ^f Including tomatoes. ^g Edible weight (excluding poultry and game). ^h 1 egg = 2 oz. ⁱ Including dried egg.

TABLE III.—Proposed Diets per Head of Population.

Weights as purchased per week.

	British Medical Association, 1933, No. 16. ¹	Stiebeling, 1933 and 1939.			League of Nations, 1936. ^g	National Research Council, 1942.	Canadian Medical Association, 1940. ^j	Proposed diet.	
		Low cost.	Moderate cost.	High cost.				As purchased.	Edible weight.
Flour, cereals (oz.)	86.4	68.7 ^a	49.1 ^a	30.7 ^c	61.6	70.5	78	63	63
All meat	28.8	18.4 ^c	28.2 ^c	46.6 ^c	25	27.8	25.6	35	28
Fish (oz.)	4 ^a	—	2.5 ^a	4 ^c	(8½) ^a	7.3	7.6	10.5	7
Milk (liquid only) (pts.)	2.8	—	(7) ^a	(7) ^a	—	—	—	8	8
Milk and cheese, liquid equiv. (pts.)	—	8.8 ^a	10.0 ^a	10.0 ^d	—	—	—	—	—
Cheese (oz.)	—	—	(5½) ^a	(5½) ^a	10.7	—	—	—	—
All fats and oils (oz.)	9.6	15.0 ^c	16.0 ^c	16.0 ^e	(6½) ^a	15.6	4.8	5.2	5.2
Butter (oz.)	1.6	6.15 ^d	7.3 ^d	12.3 ^d	12	—	11.2	14	14
Eggs (nos.)	—	3.9 ^a	5.8 ^a	6.9 ^a	7	4.4	3.6	3.5-7	—
Potatoes (oz.)	33.6	50.6 ^e	50.6 ^e	47.6 ^e	67.8	55.6	60.0	63	49
Vegetables (all) (oz.)	(20) ^b	—	—	—	—	—	77.0	56	42
Green and yellow (oz.)	—	49.2 ^d	55.4 ^d	55.4 ^d	30.4	24.4	—	—	—
Others (oz.)	—	8 ^{d,e}	17.5 ^{d,e}	21.4 ^{d,e}	—	7.3	25.6	—	—
Fruit (all) (oz.)	(20) ^b	—	—	—	—	—	—	56	45
Tomatoes and citrus (oz.)	—	20 ^d	27.7 ^d	36.9 ^d	17.9	24.4	—	—	—
Others (oz.)	—	32 ^{d,e}	70.2 ^{d,e}	85.9 ^{d,e}	—	29	—	—	—
Dried beans, peas, nuts (oz.)	—	9.3 ^{e,f}	6.2 ^{e,f}	2.1 ^{e,f}	2	7.5	4	3.5	3.5
Sugar (oz.)	23.1	10.7 ^e	18.4 ^e	18.4 ^e	26	10.9	4.8	21	21

^a Kipper. ^b 6d. allowed for fresh fruit and vegetables. ^c Stiebeling and Ward, 1933. ^d Stiebeling, 1939. ^e "Other fruit and vegetables"; 4/5 allotted to fruit and 1/5 to vegetables. ^f Approx. ½ pulses, ½ nuts. ^g Interpretation of Leitch, 1942. ^h Interpretation of Wright, 1944. ⁱ For 2 adults and 3 children under 14. ^j For 2 adults and 3 children, ages 7-18 years.

TABLE IV.—*Nutrients Supplied per Head per Day by the Main Constituents of the Basic Diet Proposed in this Chapter.*

Most figures from the M.R.C. tables;¹ nicotinic acid and some riboflavin values from Cheldelin and Williams.² Values refer to edible parts only, and allowances have been made for losses of vitamins B₁ and C in cooking.

Weight as purchased; edible weight in brackets.	Calories.	Protein.		Fat, gm.	Calcium, mg.	Iron, mg.	B ₁ , mg.	Riboflavin, mg.	Nicotinic acid, mg.	Vitamin A, ^a i.u.	Vitamin C, mg.
		Vegetable, gm.	Animal, gm.								
Cereals, 9 oz.	855	35.0	—	6.0	72.5	10.5	0.9	0.36	10	—	—
Meat (beef) topside, 4 oz.	272	—	19.2	21.6	12	4.4	0.065	0.25	4.8	56	—
Fish (cod), 1½(1) oz.	19	—	4.5	0.1	7	0.3	0.016	0.03	4	—	—
Milk, 1 pint	340	—	18	20	680	—	0.26	0.85	0.45	800	5
Butter, 1 oz.	211	—	0.1	23.4	4	—	—	—	—	1,336	—
Margarine, 1 oz.	218	—	—	24.2	1	0.1	—	—	—	454	—
Cheese, ½ oz.	90	—	5.4	7.5	172	0.1	0.007	0.1	0.004	276	—
Egg, one (50 gm.)	69	—	5.5	5	26	1.3	0.06	0.2	0.36	440	10-20
Potatoes, 9(7) oz.	144	3.6	—	—	18	0.9	0.23	0.07	1.2	—	17
Cabbage, 6(4) oz.	30	1.8	—	—	78	1.2	0.055	0.06	0.22	360	6
Lettuce, 2½(2) oz.	6	0.6	—	—	12	0.4	0.034	0.03	—	606	—
Dried beans, ½ oz.	36	3	—	—	25	0.9	0.068	0.02	0.14	—	48
1 orange, 4 oz.	26	0.6	—	—	36	0.2	0.064	0.05	0.3	84	—
1 apple, 4 oz.	34	0.2	—	—	3	0.4	0.036	0.02	0.08	11	4
Sugar, 3 oz.	336	—	—	—	—	—	—	—	—	—	—
Total	2,686	44.8	52.7	107.8	1,146	20.2	1.8	2.04	21.5	4,223	90-100
		97.5									
Estimated intake	2,546	64.4		—	910	11.7	1.47	2.2	14.7	4,004	71

¹ Univ. Texas Pub. No. 4237, 1912.

² Not all "available."

¹ *Op. cit.* (p. 49).

^a Very variable.

TABLE V.—*Total Pre-war Food Supplies ('000 tons) in Relation to Post-war Needs.*

	Pre-war: Food (Defence Plans) Department, 1938.		Post-war target in round figures.	% increase required in round figures.	Increases proposed by Group of Peers, 1943.	Increases needed to bring Orr's Groups I-V to level of Group VI.	Increases in U.S.A. diet advocated by H. K. Stiebeling.
	Total.	Home Production.					
Flour, cereals	4,418	575	4,500	No change	—	—	—
All meat	3,086	1,529	3,000	No change	25%	29%	—
Fish	974	861	1,500	50%	—	—	—
Milk, fresh (mla. gals.)	918	918	2,500	150%	65%	80%	20%
Butter	532	53	?	Probably decrease	—	41%	15%
Cheese	199	62	300	50%	—	—	—
Eggs (mins.)	7,182	4,668	7-14,000	Up to 100%	60%	55%	35%
Potatoes	4,567	4,395	4,500	No change	—	—	—
Vegetables	2,338	1,856	4,800	100%	60%	87%	100%
Dried pulses	160	15	240	50%	—	—	—
Fruit	2,380	601	4,800	100%	70%	124%	70%
Sugar	1,935	506	?	Decrease	—	—	—

CHAPTER FOUR

PRICE AND IMPORT POLICY

By R. S. G. RUTHERFORD

(Agricultural Economics Research Institute, Oxford)

THAT A large number of the British people were not able to purchase sufficient food to satisfy their minimal dietetic needs was a commonplace of pre-war nutritional surveys. To eradicate malnutrition must be one of the main aims of any progressive party; to provide home and foreign producers with a reasonable standard of living in return for their efforts to produce that food must also be an aim of any party that has the interests of the people at heart, but it is not and never should be the main aim. It is subsidiary, in that it is a sectional problem and not a general one.

The types, qualities and amounts of foods required for the population of this country have already been outlined. That is something that the biologists can tell us within a reasonable range of error. The problem is to supply these food constituents, and to supply them in such a way that nobody is prevented from obtaining at least this minimum by reason of poverty or excessively high prices. During the "hungry 'forties" this will be a considerable problem. As has been shown, the world's supplies of foodstuffs will be barely, if at all, sufficient to meet the demands of the world's population. This country in particular may well be unable to import those large quantities of overseas foodstuffs to which we had become accustomed in the inter-war period, and both the farming economy of this country and its food policy may well be determined by much the same considerations as those which have determined it over the past six years. That is, the most efficient utilization of those resources of land, labour, live-stock and fertilizers that are available in *this country*, in order to make as few demands as possible upon imported foodstuffs, may be as necessary to save foreign exchange in the latter years of the 1940's as it has been in the earlier years to save shipping space. Yet in the more abundant years of the 1950's we may look forward to a period when it will be possible to shift the emphasis of British food policy away from the provision of a bare minimum to that of enabling the people of this country to obtain the maximum possible from their land, be it in food, flowers or the enjoyment of a National Park, and when world trade will be determined by the principles of comparative costs.

The food required by our population, then, is given us within a fair degree of accuracy. The controlling world economic conditions may also be forecast fairly accurately. These are factors which would face any post-war reorganization of agriculture. What additions does a Socialist reorganization require? This is in fact two questions. First, "*What changes in the general economic mechanism does Socialist control, and the transition towards it, imply?*" and secondly, "*Are there any reasons for treating agriculture as a special case—should Socialist plans for agriculture be different from those for industry?*"

(i) *The Role of Prices in the Socialist Economy*

Obviously one cannot here describe the whole economic structure of a Socialist State, but the rôle of prices in that structure does demand attention. Socialism demands production for consumer satisfaction rather than for producer's profit: the old price mechanism of "supply and demand in the perfectly competitive market" did secure that production satisfied effective monetary consumers' demand. However, the all-but-inevitable growth of monopoly organizations, the growing tendency to depart cyclically from full employment, the intrusion into foreign exchange transactions of capital movements, and the growth of "speculation" have broken down the competitive system. To set the old machine on its feet again, to endeavour to remove by any sort of prohibition the major disturbing elements is not a way of approach that has much promise of success, for while the main determinant of output is private profit there is an inevitable tendency for these disturbing elements to reappear. Planning of production in order to secure the same results as perfect competition would have produced is the Socialist answer. But never planning for planning's sake; always planning to increase consumer satisfaction, and never to interfere more than this dictates with the individual producer's freedom of action or the consumer's freedom of choice. It will never be enough to break down monopoly organizations and attempt to hold the field clear for perfect competition, even perfect competition plus either or both consumers' and producers' co-operation. That way lies Liberalism and "devil take the hindmost"; that way, too, would lie the tragedy of unsatisfactory nutrition even in the bounteous 1950's.

The planning of production for consumption involves, then, the erection by the community of some mechanism to replace that of monopoly capitalism. In a distant Utopia that might mean that producers of everything from safety razors to spring onions would carry on their business stirred by the strongest social conscience

to produce their very best for the good of all, and strengthened in their endeavour by the knowledge that all their desires would be satisfied from the common pool. This is the fanciful Aunt Sally that even now the individualists set up when deriding Socialism. But we may envisage a more practical Socialism: where the producer is encouraged to be efficient by receiving a reward in terms of money that is directly related to the degree of his efficiency, and where the community may be allowed to encourage the production of one commodity rather than another, and in one place rather than another, by adjusting the relative price differentials of the commodities. Thus we are to retain the price mechanism, but a controlled price mechanism; controlled, in that it will be used by the community to indicate directly to producers the relative social importance attached to their output, and avoiding any of the distortions that the growth of monopoly capitalism has put upon the price mechanism. And where monopoly organizations already exist, this very use of a controlled-price mechanism will destroy their power to harm the community without necessarily destroying the economies of large-scale integrated operation: in short, nationally controlled monopolies or, if need be, nationalized services.

Moreover, it is becoming increasingly a commonplace of economic theory, and during war-time of Governmental practice, to break down the classical relationship between the price paid to the producer and the price paid to the consumer. The older classical economic theory related these two in a cast-iron grip. If articles were "expensive" to produce, then, however desirable they might be, they must be "expensive" to buy. This is something that Socialists cannot admit. If it is highly desirable that a commodity should be freely available to the population at a relatively cheap buying price, then the price to the consumer must be low, and ample supplies must be made available; if the provision of ample supplies and a reasonable return to producers demands a high producers' price, then producers must be given a high price. Finally, if there is a gap between total receipts from sale and total payments to producers, this gap must be met by the National Exchequer. Of course, there may be other commodities—indeed, there almost certainly will be—for which the position is the other way round. But if, on all these "trading transactions" of the State—for clearly the transactions will have to be undertaken by the State or by a State-sponsored body—there is still a net loss, there is nothing to become alarmed about. For all modern economic theorists would agree that actually allowing this loss to occur—and financing the deficit by short-term loan or by progressive direct taxation—would be a most desirable weapon

in the attempt to secure conditions of full employment, to control the Trade Cycle, and to provide a continuously rising standard of living in this country.

But this is not the end of the matter. If the State is going to substitute a "managed" price system for the so-called "natural" scissors of "supply and demand", will it be sufficient for the State merely to promise to buy any and all output from producers at a given price? Will the State have a sufficient knowledge of the supply curves of the industries concerned to be able to plan confidently that such and such a producers' price will call forth such and such an output? Or, in the reverse way, "Given that such and such an output is required, will the State be able to fix a price that will secure it?" Or will it be necessary *also* to establish production quotas for each enterprise? The latter involves much greater interference with the liberty of the individual enterprise, but this is only important from the social point of view when production is undertaken by numerous small enterprises employing little labour per firm. The greater danger is that the guarantee of a fixed market at a fixed and satisfactory price may discourage any attempt to lower real costs. For Socialism must not mean the freezing of productive technique and the abandonment of any search for more efficient methods of production. Production quotas may have due place when knowledge of the costs of production is very scant; normally, however, the writer would favour a system whereby prices but not output are fixed to each producer.¹ If this results in too little or too great a supply being available, then either prices in subsequent periods may be adjusted to call out the correct level, or the price established by the State may be made to fall sharply once a certain quantity has been accepted. The former method is most applicable for those commodities where the period of production is short and prices are fixed for a short period only.

But all this is subject to one qualification: as we have divorced producers' price from consumers' price, so equally we must weaken, if it is impossible completely to break, the relationship between producers' output in any given period and that released to consumers. This relationship has never been very strong since the growth of the middleman—the wholesaler and the retailer. His very function has been to hold stocks of storable goods, and hence act as a buffer between the producers' supplies and the consumers' demands. Where goods are not storable in the form delivered by the producer, the middleman has frequently actually undertaken the processing of goods into a form which can be

¹ If it is necessary, these prices need not be the same for all producers. See below.

stored. There may be cases where the existing mechanism needs no alteration, where no greater efficiency can be obtained by the State undertaking these middlemen's services, and in these cases no reason can be immediately produced why the State should take over this part of the distributive mechanism. But efficiency in the wholesale-retail function does generally demand knowledge and control of a large part of the available supplies; in other words, it has provided in the past a field where monopoly organization was both potentially most efficient and most lucrative. Where this sort of monopoly organization has grown up, the Socialist State must intervene to secure the efficiency of the large-scale organization, but to ensure that monopoly profits, if they are to be secured, are secured for the State, as part of a conscious social and economic policy. If the Socialist State, then, undertakes the functions of monopolistic wholesaler retailers, it necessarily undertakes the functions of stock-holding and processing the output if this is necessary. Even if much of the wholesale-retail trade is left outside the sector of direct State management, it may still be desirable for the State to undertake the holding of stocks or to finance their holding, making sure, of course, that in so doing it does not in fact increase the profitability of private monopolistic concerns by removing part of the risk of their business. It is evident, then, that even should the State fail to judge the correct supply price, the possibilities of State storage of excess output, and release from such stores, gives considerable insurance against faulty estimates of the output forthcoming at any given price (and also of its rate of absorption by the market).

The question of "efficiency" in production has already been touched upon. It deserves further elaboration. Socialist proposals are always subject to the attack that they will remove the incentive to efficiency among producers, that they will remove the dread of a lower price established by competitors, which under Capitalism keeps all producers on their toes, and encourages the development and introduction of more efficient methods of production. It is, of course, true that the growth of monopolies in one form or another has already gone a long way to remove this incentive, which can only be clearly established to exist under perfect competition. But that is only partly an answer. State-financed investigations into the application of scientific research can go a long way to secure that new processes are made readily available to all, and would indeed secure some economy of effort compared with a situation where a number of privately controlled "Research Departments" exist in competitive firms each seeking to steal a march on their rivals. Thus the problem of the stultification of the search for new techniques is not

really a serious one: the greater necessity is to secure their application to production. Re-equipment of production in order to secure economy (economy in the use of the natural resources of the community) might be forced upon producers, as it was in perfect competition, by the threat of being driven out of business by prices so low as to make production impossible unless re-equipment was undertaken. Obviously such a method could be used ruthlessly by a government with complete control of all prices; but the consequential effects of derelict capital equipment and unemployed human resources would also be the responsibility of such a Government. For while the classical economists tended to dismiss these unfortunate consequences by the statement that they would, *in the end*, be swept away by the general increase in demand that would derive from the greater real national income resulting from the more efficient use of the national resources, modern economics, faced with the Jarrow shipyards and the "Depressed Areas", has tended to place more weight upon the cumulative multiplier effects of such unemployment. Nor, indeed, is there any reason to believe that such reorganization will take place in the face of falling prices; for the reorganization itself may demand considerable new investment by entrepreneurs, and a fall in the price of their output (whether State-controlled or not) is bound to discourage the entrepreneurs likely to make new investments, unless the consequential decrease in production costs is really enormous and relatively certain. What, then, should a Socialist State do to ensure that efficiency in production is maintained? To encourage the adoption of the new technique it must obviously itself provide the new investment; the rate of interest at which it is provided should be low, if any at all be demanded,¹ while the price to producers should be stepped down, when reasonable time for adopting the new technique has been given.

A somewhat similar problem occurs when the divergences between production costs of producers are not due to differences in efficiency, but to differences in natural advantages enjoyed by producers. In perfect competition the output that any given price calls out is the sum of the individual outputs of both low- and high-cost producers, the marginal producers being those who can just make a living at the market price. There will be persons who would produce were the price set higher, and also those who will

¹ The rate of interest is now only a determining factor in industries where new capital has a considerable length of effective life. What must be avoided is the payment of a bonus on output. This can only be defended on the grounds that it meets the interest cost on the new capital required; since it leaves the provision of new capital to the producer, it will rarely be effective.

go out of business if the price is lowered, but there will be many other producers (the low-cost producers) who would still be able to produce at very much lower prices. Now, a Socialist State wishing to call out a given supply may find that it will not immediately get enough by setting a price that makes production profitable only to the low-cost producers. But to set a price high enough to call out the high-cost producers' output is, as we have seen, to give low-cost producers a hidden bonus. True they may increase their own output, beyond the optimum point of their own individual organization until their costs reach a level such that their marginal output is as much "high cost" as that of the marginal producers, but this involves a diversion of the nation's resources from their most efficient use. If the sales of the low-cost and high-cost producers can be kept distinct—*i.e.*, if the low-cost producer can be prevented from selling his produce as if it were that of a high-cost producer—then it is always possible for the State to offer differential prices—*i.e.*, a price to low-cost producers which secures from them the output which corresponds to their most efficient use of their natural resources, and to high-cost producers one which maintains them in business, but which also demands efficiency. Now, generally, such a policy of discriminating prices will not be desirable—for it is always true that the low-cost producer is producing at lower cost than the high-cost producer; and no Socialist should maintain that, *ceteris paribus*, the high-cost production should be indefinitely subsidized. But, whereas perfect competition might leave only low-cost producers, it can only do so by driving the high-cost producer out of business, with all the unfortunate immediate social consequences that this entails. State buying, on the other hand, can plan the process of gradual extinction and give time for plans for the reabsorption of men and materials to mature. This should provide a means to avoid Jarrow and its parallels in other industries. And if there is an immediate economic need to secure a particular output at its highest level—for example, to reduce import demands on foreign exchange or shipping—differential prices are the best immediate weapons.

The principle we have just outlined applies to a wider field than simply the prices to be paid to home producers for the home market. For the low-cost producer may not be a British producer at all; for foodstuffs he is quite likely to be a producer in the Dominions, Argentina or Denmark. Mr. Yates has already made the point in Chapter Two that as a long-run policy we must aim to secure the same results as if "comparative costs" determined the amounts purchased from outside the national economy. "Comparative costs" represents here what "perfect competition"

represents in home production. In both spheres the objectives are the same, though existing methods of obtaining them are hopelessly weak in the face of organized monopoly capitalism. And essentially the same mechanism may be substituted. The State-buying organization is in a position to act as a discriminating "monopsonist"—i.e., as the only buyer for the British market, it may offer to buy at prices that are largely subject to its control and which need not be the same for all countries.

The general principle must always be to secure as much of the imported produce as possible for as little foreign exchange as possible—that is, for as little diversion as possible of domestic resources to producing goods for export. Those goods that are exported should be those which other countries want and which we can produce with comparatively greatest efficiency. Equally, when deciding whether to import more goods from abroad or produce the same goods at home, the criterion, other things being equal, must simply be, "Does the production of an extra unit of the commodity at home make more or less demands upon the resources of this country than the production of the commodity that it will be necessary to export in order to provide the foreign exchange with which to pay for the imported unit?" Now, obviously less foreign exchange will be needed, the lower the price that the overseas producer can be persuaded to accept, and the smaller, therefore, the diversion of national resources to obtain them. Therefore it will always be to the advantage of this country, at least from the short-run point of view, to exercise its full "monopsony" powers and to buy at the cheapest possible price. But this power is limited by the possibility open to overseas producers to sell their produce elsewhere, for if they can obtain a greater command over goods and services from other countries, we cannot prevent them doing so. In the inter-war period the British market was in fact the world market for meat, milk products and eggs, and British importers, acting as a body through the Board of Trade, were able to dictate within very narrow limits how much they would import and what they would pay for it. In the post-war world this may well not be so. During the rest of this decade we may find international control directing most of the exportable food surpluses away from this country's markets, and at a later stage there may be such an increase in the standard of living of other countries that they, too, will be seeking Argentine chilled beef and New Zealand butter. In the long run we cannot, therefore, look forward to the continuance of our position as a virtual monopolist of the world food markets. Nor could a Socialist State that was at all "internationally minded" carry on a policy which in this international sphere was entirely uncon-

cerned with the effects of its policy upon the living conditions of producers overseas. In the same way as "perfect competition" sought efficiency without any regard to the immediate effects upon displaced producers, so would "comparative costs"; in the same way as planning in the home sector could achieve the same efficiency with the same disregard of the social effects, so could national cut-throat buying achieve it in world trade. Were it possible to assume a World Socialist Economy, proposals might be outlined to suit such an ideal situation. It seems, however, that the most we can assume is that certain States, such as U.S.S.R., New Zealand, Australia and perhaps some others, will be organized on principles akin to those we have outlined, that other States may have accepted the principle of the State acting as sole buyer of imports and sole seller of exports, and that there will remain a number of States where private monopoly or co-operative selling agencies will control the export trade; but that some of each of these three types will be linked to this country in some sort of Exchange-clearing arrangements. In those countries where the home market absorbs the main part of the output, it may be that the organization is such that they are in fact "dumping" their produce on the world market—i.e., they are acting as discriminating monopolists charging a price to their consumers sufficiently high to cover all the costs of production, and able then to sell for export at extremely low prices. Their own consumers would be suffering from the high price, but it is probably an assumption of too great responsibility on our part to attempt, at once, to remove this by refusing to accept the surplus at the low price at which it may be offered, though, if ample supplies are available elsewhere at not very much higher prices, a Socialist block of countries might well refuse to continue trading with this source. But, even so, were the exporting country so minded, and particularly if the monopoly is a private monopoly, there is nothing to stop her restricting output, still keeping domestic prices high, and her consumers' living standards low. Breaking the internal monopoly must be left to the nationals of that country. Essentially the same problem arises when the exporting country is not really producing a surplus over and above its requirements on the highest nutritional levels, or exports its very best produce, consuming only the inferior. It is for the nationals of those countries to insist that only genuine surpluses be exported. For us to attempt to interfere would be dangerous, though it might well be the province of the Food and Agriculture Organisation of UNO to make the facts known within the country, so that its public opinion might be informed.

* Where the exporting country depends mainly on the British
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market, and its home market is unimportant, the position is rather different. It is very difficult to conceive of a Socialist Britain being so national in outlook that it would exercise its full buying power and depress its buying price to the detriment of the foreign producer; but it must still maintain considerable liberty to obtain its supplies from the source that, *from the British point of view*, can provide it most cheaply—i.e., most cheaply in terms of foreign exchange and/or the goods it is willing to accept in exchange.

Thus the whole complex organization of British foreign trade pivots round the power of this country to act as a discriminating State-buyer within the framework of bi-lateral, multi-lateral or international currency, and commodity agreements, and qualified by genuine Socialist considerations of the international political and economic consequences of her action on the one side, and on the other by the necessity to secure the greatest supply of imported goods for the least diversion of internal resources to export goods.

(ii) *The Special Problems of Agriculture*

Now let us turn to our second problem. What special plans does Agriculture demand? We can only answer this by considering:—

1. The nature of the economic organization of food supply.
2. How the demand for agricultural products is different in character from the demand for other goods.
3. The special problems of agricultural production.

1. *The Economic Organization of the Food Supplying Industries*

The estimates in the table on p. 87, adapted from figures given by Mr. C. C. Clark in *National Income and Outlay*, are probably subject to a considerable range of error, but the general impression is undoubtedly correct.

This shows that per person engaged, and per £100 of capital invested, agriculture is very much less productive than industry. It can be put another way round. To produce, in 1930, £1,000 of income available from agriculture for distribution among landlords, farmers and workers, eight men and £11,000 of capital¹ were required: to produce £1,000 for shareholders and wage-earners in industry, five men and £2,300 only were required! Is it any wonder that new capital does not seek agricultural investment?

There were in this country in 1930 some 450,000 separate

¹ The capital value of the land is of course the major item in this figure.

farming enterprises, occupying on the average some 50-60 acres, some 2½ people and £3,100 capital, and yielding a net annual output of something like £275 out of which to pay rent and wages. This is clearly not a business where the iniquities of large-scale capitalism are likely to occur, but it is a business where large capitalization is required.

Capital, Occupied Persons, and Net Output. Great Britain 1930

	Capital.	Occupied Persons.	Net output.	Net output.		Capital per person occupied.
				Per head.	Per £100 capital.	
	£'s mln.	000's	£'s mln.	£	£	£
Agriculture . .	1,400	1,020	126	124	9	1,370
Industry . .	3,400	7,868	1,496	190	44	433
Domestic Service . .	—	1,540	150	97	—	—
Transport, Distribution and Other Services . .	6,800	8,027	1,517	189	22	830
Total . .	11,600*	18,455	3,289	178	28	630

* Excluding private dwellings £2,000 mln.

But if agricultural capitalism is of an undeveloped form, farmers face monopoly in all their dealings with the rest of the economy. The merchants who sell them seed, fertilizers and feeding-stuffs, if not complete monopolists, are bound together by "trade agreements" and price arrangements, and by their credit-provision powers tend to bind the farmer to them and their terms; the wholesalers, the processors, and the retailers who carry their goods to the distant consumer present a united front and an arranged price to the producer.¹ And no economic position could be worse than that of the industry, organized on the lines of competition, ground between the twin millstones of monopoly selling and buying. Add to this the farmers' need of and extreme difficulty in obtaining credit, and the picture is complete.

2. *The Demand for Agricultural Products*

All industry depends in the end on an extractive process, whether it be mining, forestry, fishing or agriculture. But the extent to which agriculture is concerned with providing the raw

¹ The controls of the last war strengthened monopolies in food distribution: the position after this war will probably be much the same.

materials of machine industry varies greatly from country to country. The tropics produce rubber and hemp, the sub-tropical areas cotton and tobacco, but in the temperate zones, which include this country, the bulk of agricultural production is food-stuffs. The only exceptions are wool and flax.

From this dependence on a demand for food two important points arise. Food is not a postponable demand: to be able to eat two breakfasts tomorrow is not a substitute for none today. Yet food production is essentially a seasonal process, and to supply a constant consumer-demand only three ways are available, viz. :—

- (a) to produce at one period of the year and store the produce until it is wanted;
- (b) to import from other regions when production at home is impossible;
- (c) to extend the production artificially over the whole year, even though it involves more expensive production.

The first of these methods is the one that historically comes first, but it is limited in its application to those commodities which can be stored. This limitation has exercised a tremendous influence on the development of agriculture. The dominance of one or other form of cereals in all economies has been based upon their ease of storage: today, even as in Biblical days, the nations store cereals before going to war.¹ The second method, too, depends largely on the storage possibilities and the existence of fast transport methods. If these two limitations of preservation and transport can be overcome, at a relatively low cost, then the third method of production at high cost during certain seasons of the year can and should be avoided, remembering always, of course, that in some livestock production the "costs of capital maintenance while not producing" are quite considerable.² These limitations may be overcome by the development of scientific knowledge and its application. Refrigeration and fast ocean transport extended the fields of storable goods in the latter half of the nineteenth century, and British agriculture had to change its shape in response; the development in canning and dehydration that the urgency of war has so vastly encouraged have again provided possibilities of a new adjustment being called for.

The second major result of the demand for the produce of agriculture being a food demand is due to the fact that, just as

¹ At least *should* store cereals. We did not do so to any large extent, despite the fact that world wheat prices were lower in 1939 than they had been during the century.

² E.g., the costs of maintenance food and of idle skilled labour that dry cattle involve.

we get a diminishing marginal return showing itself quickly in agricultural production, so also we get diminishing marginal utility showing itself quickly in the demand for food. Once reasonable satisfaction has been reached, an increase in real income (whether derived from a fall in prices or from greater productivity) causes a rise in the demand for food, but not a rise proportionate to the rise in real income. A more than proportionate part of the rise is devoted to those non-food consumptions that are the output of machine industry. Thus agriculture has benefited less than industry from the progressive rise in the standard of living in this country during the last century.

At the same time, it has been less hit by cyclical fluctuations, even though this must be qualified by the considerations that (a) individual countries have found that, in the downswing of depression, consumers' demand have shifted to the cheaper foreign products—e.g., from British prime beef to Argentine chilled beef—and (b) since the wholesale-retail or import-retail margins remain constant, the producer bears the full *absolute* change in consumers' price, which represents very much larger *proportionate* fluctuations.

3. *Problems of Production and Reactions to Price*

The industrial entrepreneur and the farmer alike seek to adjust intended output to expected price. The former can control his output, since all the factors which determine it are largely within his control. He can be reasonably certain, in particular, about the price the output will fetch, since it will generally be marketed within a very short time of the decision to begin to produce. The exceptions are those industrial producers who are turning out capital goods for their own use, or when the period of production is long—e.g., in shipbuilding. The agricultural producer, however, has only a very vague knowledge of how much saleable output he will be able to obtain from any given combination of the factors of production under his control, as factors over which he has no control—i.e., the weather—are capable of upsetting his best-laid plans. And, since the period between his deciding to produce and actually being able to sell his produce is necessarily a long one, his knowledge of the price he may be able to obtain for his produce is scant; in the absence of any guarantee, he must depend on a "hunch", past practice, or current prices. Indeed, if the costs of new capital are not great or little new capital is needed, the farmer tends to use current prices as the basis of his output decision. Thus the cause of the cycles noticed in the prices and production levels of pigs has simply been that high prices at any one time have resulted in production being begun at too high

a level; when this production is ready for the market the price falls very sharply, and current decisions to start production are discouraged, with the consequent shortage of supplies and high prices when these are ready for market. Thus the initial conditions are repeated and the cycle regenerated.

The machine-industry entrepreneur, too, generally concentrates upon one output. He may sell his output under different labels in different markets, and some of the final processes may differ: but essentially he has only a single set of decisions to make about the utilization of the productive resources at his disposal. The farmer has no such easy job. Will it pay me better to grow wheat than barley? or potatoes? or market-garden crops? or to put the arable land back into grass and produce milk? These are the sort of problems that the farmer faces every year: towards what final product or groups of products shall he direct his resources, and how much of each?

Again, though the steel industry and some others show examples of vertical integration, this is still comparatively rare in machine industry; and where it does occur is a more or less permanent feature of the structure and is associated with a high degree of monopoly. But the individual livestock-farmer must always decide, Is it better to grow my own fodder or buy it? He has the problem of deciding whether his existing resources of land, labour and credit are better engaged in a grazing system, or as arable land for fodder-crops, or as arable land for human-food crops. Add to this the complication that many crops—e.g., cabbages, turnips, oats—are capable of being sold for human consumption or kept for fodder, and it is clear that the sort of decision that the farmer has to make regarding his scale and type of output, and the utilization of the resources available to him, is one that demands knowledge and power to assess a whole schedule of relative prices in the distant future together with intimate cost-accounting of his productive processes, both of which he rarely possesses. Until at least some of these factors can be stabilized, it is optimistic to expect an output-price reaction at all as definite or as reliable as we find in machine industry. This is not to say that *long-term* movements in relative outputs do not reflect adjustments in relation to *long-term* movements in prices and demand conditions.

Nor is the farmer's problem confined to adjusting the combination of his resources to prices of the product at the end of production. Costs and output are things he must watch even during production, where the product is that of an annual harvest, and prices as well, if it be a perishable livestock product continually coming on to the market. And with pigs he

may have the further problem of deciding at what stage to stop his productive process.

If an industrialist wishes to increase his output, he can generally obtain a very considerable increase simply by employing more labour and purchasing more raw materials, probably without raising the unit cost of these factors very much against himself, and certainly without needing to change his production technique. In other words, he is producing under conditions of more or less constant costs, and "Diminishing Returns" begin to operate only for very large increases in output. If an individual farmer wishes to increase his production of a particular output, he may be able to do so, without changing his technique fundamentally, if it is simply a case of growing more wheat and less barley. When he has exhausted the possibilities of substitution in production, he may attempt to increase his global output by more intensive application of, for example, a chemical fertilizer. But here, very soon, he will face "Diminishing Returns". To obtain any radical change in his individual output he must either take on new land, or change the whole basis of his production. In circumstances where the incentive to the change is general, and applies in varying strengths to all producers, obtaining extra land will be difficult and expensive, and "Diminishing Returns" again rears its head. Thus any considerable change in agricultural production involves *either* production at very high cost (*i.e.*, "Diminishing Returns" looked at the other way round as "Increasing Costs") *or* a change in the production technique and the investment of new capital.

But if the farmer is to change the method of production he must scrap his old ones. To scrap his old methods may involve considerable costs, since the capital invested in them still earns *some* gross income, though not the highest possible. A contraction in the demand for hops, for example, or for asparagus, or the tree and bush fruits, must go on for some years before any decline in the acreage devoted to them becomes profitable. Maintenance costs are low in comparison with the costs of transferring to new outputs. The low prices must therefore be ones that are firmly expected to continue low for a very considerable time. True there will probably be less new investment in these directions to replace worn-out capital, but when the productive life of the capital asset is long, and the costs and riskiness of transferring capital great, little change in methods of production may be expected in the short run. Even more so is this true when there is a considerable period during which no revenue is derived from the new capital, as in the case with most livestock production, for the conditions which encourage the transfer may have passed away by the time the new capital is yielding an income.

In agriculture, then, increases in output, unless they are at higher cost, derive mainly from changes in the methods of production, but these changes are themselves more difficult than in industry because of the greater length of life of capital assets, the longer period before revenue is produced, and the greater uncertainty of the prices over the length of life of the capital.

We have already established that much of the "reaction of supply to price", that is usual in industry, will not, at any rate in the short run, be likely to apply in agriculture. So far we have been considering the reactions of the individual producer, and the distribution of his resources; we must now turn to the more general problem of the distribution of resources and production as a whole. We have seen that "Perfect Competition" in the national industry and "Comparative Costs" in international trade could reasonably be argued to secure the concentration of production upon those enterprises where costs were lowest. As it represents the most productive use of the nation's and the world's resources, and yields the greatest welfare to the population of the world, it is an end that Socialists should strive for. And, even in the presence of considerable monopoly elements, there is still a clear tendency towards this in machine industry. Yet in agriculture, variations between producers' costs are tremendous. Not only variations between regions and between countries, but for the same producer between different months of the year. This is partly accountable for by those reasons for the slowness of adjustment to changing price conditions that we have already discussed, and to the closed market for perishable output surrounding each producing area, but an equally important factor is the simple fact that the smaller farms employing only family labour are not capitalist enterprises in any developed sense. Thus in the face of falling profitability from their production these families simply reduce their standard of living; changes in technique are generally impossible, for the capital is not available, change in occupation is rarely possible, since no alternative occupation is readily available. The only alternative is longer hours of work and a greater output, even if that by itself tends to lower prices even more. Always the hope that "things may be better next year" tends to encourage every effort to hang on at a reduced standard of living. Only when the economic forces have been in action consistently for a long period, or catastrophically, will the high-cost producer be driven out of business and production focused on the low-cost producer at home or abroad.

Summarizing, then, the special problems of agriculture we may say that:—

(a) The industry requires large capitalization, but as at present organized yields little returns to labour or capital.

(b) The industry itself is at a very low plane of capitalism, but faces highly developed monopoly capitalism in both the purchase of its requirements (other than labour and perhaps land) and the sale of its produce.

(c) The final demand for its produce is relatively stable in both the long run and the short run. Changes in the standard of living and in methods of preservation, as well as developments in the agricultural sciences, are likely to call for considerable alterations in the type of output and production methods in the industry.

(d) These changes are themselves difficult for the individual farmer to undertake because of the necessity to change the capital structure, if a change in output is to be obtained without production at very high price.

(e) The normal supply-reaction to price cannot operate in the short run, when capital changes are not necessary, owing to the impossibility of forecasting prices or outputs; when it does operate, cyclical fluctuations generally occur.

To these must be added the factor that is fundamental to the study of any *one* industry:—

(f) The prices of agricultural produce are not self-determined: they move upwards and downwards with the "general level of prices", and with the level of consumers' income. This must never be overlooked, nor the parallel fact that when the prices of *produce* are falling in the downswing of a Trade Cycle, so, too, are the prices of *requisites*.

(iii) *Capitalist Support to Agriculture*

Before proceeding to examine the needs of a Socialist policy for agriculture, we must look at what steps have already been taken to remove the apparent disadvantage under which the industry labours.

As early as 1925 State assistance had been provided for the sugar-beet industry in the form of a ten-year subsidy to enable the industry to stand on its feet against the imported cane product. By the 'thirties sugar-beet had become an integral part of the agricultural economy with no *raison d'être* except the desire to maintain a form of production that it would cause considerable disturbance to allow to die out. In the late 1920's there was legislation to relieve agricultural land of all local rates, to encourage the grading and classification of produce (the National Mark Scheme) and to provide some long-term credit to farmers.

At the same time farmers themselves had been experimenting with producers' co-operatives for the purchase of requisites and the sale of produce.

These broke down in the storms of 1929-32 depression, when, as has been mentioned previously, confidence in the future was destroyed. Yet in almost every other developed country the chief characteristic of the farmers' economic relations with the rest of the community, both as buyers and sellers, has been co-operative organization.

Co-operation and Cartellization

Co-operation seems to represent much with which Socialists must have great sympathy, the attempt to secure protection for the small-scale industry against monopoly capitalism. But the English schemes broke down largely because loyalty to the co-operative from the low-cost producer was never strong enough to bear in periods of falling prices the burden of maintaining high-cost producers and restriction of low-cost output. The same sort of loose association in machine industry has met the same fate, and the Trust, the complete amalgamation, has taken its place; in agriculture such an amalgamation of holdings under single control has at times occurred (*e.g.*, the farms to-day of Mr. Hosier, Mr. Patterson and Mr. A. H. Brown), but the possibilities of combination into such large groups are severely limited by the organizational and supervisory capacities of one individual—*i.e.*, they are outright purchases by one unit of several others. The more acceptable form of combination has been combination for the purpose of selling output, but with State powers to enforce complete adherence and loyalty to the combination. This farm-selling cartel with State backing was essentially what was given to agriculture in the Marketing Act of 1931. But, even so, it could only be a cartel—a selling monopoly—of *British* producers. For those commodities—*e.g.*, the cereals and the meats—where imports supplied a major part of the British market, this sort of producers' monopoly would not have been effective. To give home-producers "protection" against the lower-cost overseas markets, the National Government provided from 1933 onwards a complicated, and somewhat ineffective system of import duties and import quotas. The purpose of this form of "protection" was simply to lower the receipts obtained by foreign producers by the extent of the tax. This it was considered would raise the selling price of British produce (and foreign, too) because of a smaller total supply. Or, alternatively, where import quotas were used, it was hoped to secure an immediate diminution of supply with the same result. They largely failed in their object because con-

sumers did not regard home-produced and imported produce as substitutes. The classic case is that of Danish bacon; the higher price of the product did *not* result in a transfer of demand to British bacon; it resulted, in fact, in a somewhat lower consumption of Danish bacon at a much higher price, a greater *total expenditure* on Danish bacon, with a consequent lowering in the funds available for the purchase of other British products; in other words, a lowering in the strength of the demand for home goods and a subsidy to Danish exporters.

The general criticism that Socialists must levy against these schemes is that they were producers' monopolies; their intention in one way or another was to maintain producers' prices at as high a level as possible by means of restriction of new entry into production (*e.g.*, in hops and potatoes), by attempts to keep the British market closed from foreign competition, or to maintain a fixed price schedule to which all producers must adhere in those branches of the industry, like milk production, where, since total demand was rising, there was no real danger to existing producers in allowing new entry, so long as the new entrants did not attempt to undercut existing producers. The schemes suffered from the two major defects that:—

(a) The prices fixed were those which gave existing producers a measure of private monopoly profit.

(b) There was therefore no incentive to increased efficiency for the individual farmer nor attempt to organize the use of national agricultural resources in the most efficient way.

Further, the schemes suffered both in their effectiveness in easing the difficulties of the farmer, and in providing the basis of a national plan, since they controlled commodities individually. At no time was there any attempt to interrelate the price and production policies of the various boards.

- There was also no attempt to attack the retail margin. In fact many of the boards entered into agreement with the wholesale-retail trade to maintain this margin (*e.g.*, in milk) and share the proceeds of consumer exploitation. Nor was there any attempt to disturb the existing channels of trade. The Milk Marketing Board considered itself established for the purpose of maintaining the separation between the liquid and the manufacturing markets; this resulted in a higher price for liquid milk consumers, and a lower price for concerns manufacturing milk, than that which might have cleared the market under a single price system. If liquid and manufacturing milk had both been sold by the Board at, say, 1s. per gallon to all purchasers, it might have been possible for the liquid market to have absorbed the whole of the supplies

with enormous benefit to the nutrition of the country, and no loss of income to producers. True, the manufacturing industry might have been killed, but it was an industry working under such high-cost conditions that it could only continue to compete, at a very low level, with overseas producers, if the country were willing to subsidize it by paying more for its liquid milk. Germany may have been forced to choose guns rather than butter, we chose to have a small proportion of our butter home-produced and much less fresh milk, rather than all our butter from New Zealand and ample liquid milk, even though the former was a dearer choice; and this simply to avoid planning the gradual extinction of the home-factory butter industry! Producers had in fact begun to combine with distributors to safeguard their livelihood at the expense of the welfare of the community; and the State sanctioned and approved this.

Even in the 'thirties there were exceptions to this general picture. The marketing schemes of Northern Ireland, partly under earlier, and partly under parallel legislation, showed a significant divergence. The community interests were much more firmly represented, and essentially the Government decided what prices should rule. The price schedules established for milk encouraged very strongly the production of good-quality produce, and no attempt was made to separate the liquid and manufacturing markets except on the basis of the quality of the milk. The economic circumstances of the industry were undoubtedly different—a large export and manufacturing market, and a greater number of small producers with a stronger co-operative tradition. The economic and social advantages of a State-controlled rather than producer-controlled monopoly were, however, very obvious, and their adoption in Great Britain was successively urged by the Reorganization Commissioners, but a Conservative House of Commons, subject to farming and landowning pressure-groups, would never accept the recommendations.

Guaranteed Prices

For wheat no such scheme could have worked. The home production represented such a small part of the total British demand that combination among British producers could never be sufficient to influence the price on the British markets (even though British wheat was of the "soft" kind and different in quality from the "hard" wheat grown in the American continent). Yet wheat prices, more perhaps than those of any other products of temperate agriculture, fluctuated wildly in response to general trade conditions, as much as to true fluctuations in supply and demand conditions for wheat itself. To give some stability to the wheat

producer a system of price-insurance was instituted. Whatever the actual price at which a farmer's wheat was sold (*i.e.*, the world price, since the "market" for wheat covers the whole world), he was to receive 10s. per cwt. The farmer actually sold the output for whatever he could get, and the Wheat Fund made up the difference between an average price estimated for the whole crop and the guaranteed price. The funds to provide this subsidy were obtained by a levy on imported flour and on all flour milled (whether from home or imported wheat) in the United Kingdom. The burden was passed on to the consumer in the form of a rise in the price of bread (as much as $\frac{1}{2}$ d. on the 2d. loaf). Though it never appeared in the Chancellor's budget, this was clearly equivalent to a tax, and a most regressive tax at that. The stabilization of the price of one output, while that of others fluctuated, naturally invited farmers to give up production of, *e.g.*, barley, where returns were uncertain, for the more certain wheat crop. This seems to have been originally foreseen, for payment of the guaranteed price was to be limited to 27 million cwt. After this amount had been sold the average price declined slightly, but the marginal price very sharply, and it was hoped thereby to avoid encouraging the extension of wheat cultivation to land unsuitable for the crop. In the event this hope was unfulfilled, since pressure brought to bear on the Government raised the limit by a further 9 million cwt. in the Agriculture Act of 1937.

This type of scheme was obviously a much better form of price stabilization than anything the Marketing Boards could offer, and there was just before the war a movement among farming circles to press for its general adoption. It has much to say for it in that it is State-operated, and that the State can make sure that no monopoly profits are earned. Its defects were threefold. It still gave no encouragement to efficient production: it simply maintained in production all producers whose costs were less than 10s. per cwt. and gave no incentive to the individual low-cost producer to decrease his costs still more. In fact the low-cost producer tended to increase his output, with the same technique of production, and therefore with rising costs, until all production was high-cost. This increased output did mean a reduced subsidy as soon as the "ceiling" was passed, but since each producer planned in ignorance that other producers too were expanding, the fear of a somewhat lower average price completely failed to act as a brake on expansion.

Secondly, the scheme, until 1937, dealt with one commodity only. Price control that is limited in scope to a small number of commodities, when it is the *price relatives* of all commodities that matters, can never give permanent stability. Thirdly, the

method of finance was faulty; the subsidy should have been paid from the general exchequer, and not from the bread-consumer's purse. Moreover, if prices had ever risen above the 10s. a cwt. level there should have been some provision for repayment to the Exchequer. Finally, of course, the whole basis of the scheme was wrecked by the extension of the "ceiling" in 1937.

Measures to Improve Efficiency

There were at the same time a number of minor efforts to improve the efficiency of production, generally taking the form of giving bonuses for improved quality. There was little attempt to provide the capital necessary to obtain this better quality, and the price level for inferior or "standard" quality was generally so well protected that there was little incentive to improve productive methods. There was a considerable increase in the number of supervised herds of dairy cattle in Great Britain as a result of the premiums paid, but it is doubtful whether for the same expenditure of money better results would not have been achieved by allowing poor-quality and dirty milk to receive only a manufacturing price, as was done in Ulster.

More desirable schemes were the capital grants towards the purchase of fertilizers and to the cost of field drainage.

Measures to Provide Credit

Various measures had been put on the Statute Book to enable the farmer or landowner to obtain credit,¹ but the actual amount taken up was lamentably small. This reflected partly the publicity and high interest rates involved, but mainly the fact that there was no incentive to change productive methods while the producer-monopoly and protection from foreign competition guaranteed a reasonable living to the farming community. Had there been a pressure on farming incomes sufficient to make farmers as a body anxious to re-equip their undertakings, then no doubt the facilities offered might have been more eagerly sought after, or, in their absence or insufficiency, some form of producers' co-operation for credit provision might have evolved, as it had on the Continent.

Other Measures

The factories engaged in processing agricultural products that are not storable in the raw form necessarily incur high overhead costs, as their capital has to stand idle over that part of the year when raw supplies are not available (*e.g.*, sugar-beet), or when supplies are in the "trough" (*e.g.*, bacon at the bottom of the

¹ Improvement of Lands Act and the Agricultural Credits Act 1927 and for Small-holders under the 1926 Small Holdings Act.

“pig cycle”). Furthermore, since processing away from the point of production is limited by transport facilities, small plants have frequently had to be set up in a large number of places. Both these factors tend to cause processing costs to be abnormally high. Rationalization had already begun under the Bacon Development Board and the Livestock Industry Act, both in themselves quite commendable schemes, largely ineffective, since they only touched the fringe of the question, but indicating the need for such a reorganization by a national planning body. As one might expect, they provided, mainly, for the maintenance of the private monopolistic large-scale organization, even though schemes for some municipal slaughter-houses did go forward under the Livestock Industry Act.

At the same time, mainly through the B.B.C. and the growth of the market intelligence services, the State did make sure that producers were not necessarily ignorant of current prices and had equal chances of forecasting future movements. But it is doubtful whether the producer gained much from these services; they probably only made it easier for the dealer to drive a hard bargain.

Looking back, then, on the inter-war period, what can one say of the assistance given by a capitalist State to the oldest industry?

On the one hand it was reasonably successful in certain measures of rationalization of marketing methods and the processing of certain products. This must have benefited consumers to some extent and cost relatively little.

On the other side, it spent some £30-50 millions per year in subsidies to the industry, gave State guarantees to a whole sector of prices above the level they would otherwise have reached, but secured in exchange no guarantee of efficient production. The farmer gained a relative stability in his price levels (relative only, since the prices of various production substitutes were never correlated), but it was a stability that could be maintained only so long as the taxpayer and the consumer would continue the one-sided bargain.

(iv) *The Synthesis*

Socialist Agriculture

Economic planning may be shortly defined as the attempt to introduce ordered progress and dynamic stability into the economic system. But planning can never be more than a means to an end. Socialist planning in the economic sphere must be directed towards the aim of securing that:—

- (a) the community are supplied with the goods and services that they require;

(b) that, *ceteris paribus*, the productive resources of the community and the world are used in the most efficient manner, and that changes in productive methods are planned with due consideration of their social effect;

(c) that income—i.e., command over goods and services—is closely related to the contribution made to the common pool.

It has been argued in a previous section that a system of pure competition would perhaps provide these conditions, but that pure competition working through the motive of private profit inevitably and necessarily leads to monopolistic competition, and that under these conditions there is no guarantee that any of the aims are secured. A Socialist State should seek to secure for the community all the economies of scale that have encouraged the growth of monopolies, by acting as the monopolist buyer and seller. Furthermore, since it must seek to soften the burden on the individual at home or abroad of changes in the economic structure that the demands of efficient production or the general economic policy may make necessary, it may legitimately act as a discriminating monopolist.

What does this mean in the particular agricultural field? ¹ It may all be summarized in the one sentence: we must produce conditions in farming by which the price mechanism will produce the same results as it might have done under perfect competition.

The amount and type of output must be determined by the needs of consumers. At least the *minimum* requirements for adequate health can be established on a nutritional basis. Beyond this level the requirement of semi-luxuries can also be determined by a representative body, speaking for the community as a whole. During the "hungry 'forties", it has been agreed that foreign exchange difficulties may restrict the possibilities of standards much above present minimum requirements (even though it may be hoped that more variety may be provided); but in the "fulsome 'fifties" we may expect to aim at a diet well above this nutritional minimum, and satisfy gastronomic and æsthetic as well as nutritional experts. The needs of the community cannot show them-

¹ The control of monopoly in the processing and wholesale-retail trades is not dealt with in detail. Their problems are those of the general Socialist control of industry, and whether nationalization or State supervision is the appropriate form for them is a problem of the general Socialist economy. Nor are detailed schemes suggested for individual commodities, since (a) it has already been argued that separate schemes for individual commodities are dangerous, (b) the general concept of a Food Commission as set out in the Labour Party's pamphlet *The Nation's Food*, pp. 9 and 10, meets with the writer's wholehearted approval, but (c) I feel very strongly that the *general* principles of a Socialist price policy for agriculture need a very careful working out that they have not yet received.

selves without distortion through the old mechanism, and for it we substitute a plan of total demand based on nutritional knowledge. To secure that output we present to the farmer at home and overseas a schedule of prices at which the State organization is willing to buy. Since the prices necessary to call out supply may vary from producer to producer, and since there may be social, political or economic reasons for exercising discriminatory powers, the State organization must be in a position to offer different prices to different producers.

We must secure the most efficient utilization of the national resources. This must mean:—

(a) that production of a commodity takes place in that region of the country or the world where it can be most cheaply produced (“cheaply” in the sense of use of resources, and in comparison with other possible outputs—i.e., in terms of “opportunity” costs);

(b) that production takes place at the *time* when the costs over the whole period of production and bringing to the consumer are least;

(c) that production in each individual area and at any given time is at the lowest possible cost—i.e., the scale and methods of production must be the most efficient;

(d) that changes in the production technique of the industry must follow closely upon changes in scientific knowledge, and/or the economic situation that demands them, but that such changes must be planned so that the displaced labour and capital can be reabsorbed elsewhere in the community. (The community must be willing to divert resources to produce and make available at low interest rates the new capital equipment required.)

These must be the aims of any Socialist agricultural plan. They do *not* involve “farming from Whitehall”. There could never be any justification for suggesting that Government officials, or even County Committee officials, should dictate the actual process of cultivation or livestock rearing, about which they may know very little. All it does demand is that farmers should farm with the urge to use the natural capacities of their land to its best advantage, and in the service of the nation; it demands that the average farmer should become as efficient as the best, *in himself*. The land is a national heritage, and it is not too much to ask that it should be used to the full of its capacities, and that every person working in association with it should develop to the full their human capacities.

But, as we have seen, to present a schedule of prices for his

produce will not be enough to release the farmer from the inherent problems of his business in such a way that he can produce, at the most efficient level, that which the country wants. His is a long-term business; he needs stability and confidence in the price structure before he can begin to plan production. Prices must not fluctuate violently between his deciding to produce and his tendering his produce for sale: he must know, when he initiates production or new capital extensions, what the price for his produce will be.

Stability in the general economy—full employment and at a steady level of consumption demand—will go a long way to achieve this stability for the farmer from the demand side. Stability of costs—rent, labour, fertilizers, feeding-stuffs, and seeds—are integral parts of any Socialist planned economy.¹ But this will not be enough. We must also give the producer a guaranteed price for his product over some considerable length of time, and change in that price must be announced well beforehand. In establishing guaranteed prices, even differential prices among producers and between periods of time, there is always, of course, a danger of freezing the incentives towards efficiency; for, as we have already argued, it may over a period of time well result in infra-marginal producers making a comfortable living and being thoroughly content with their “inefficiency”. To overcome this there must always be provision for a revision of the guaranteed price; the producer must never gain the illusion that prices will be guaranteed in perpetuity at levels which have proved to be either absolutely or relatively too high, nor must he feel that prices that are currently too low to be remunerative to him necessitate his exercising political pressure to increase them rather than seeking new methods or new types of production. It is true that guaranteed prices (like tariff walls) have been extremely difficult to lower in the face of organized pressure-groups. But it must nevertheless be done, if the need arises. A Conservative Minister of Agriculture has shown that, given sufficient political courage in the Ministry, even a Conservative House of Commons will agree to its being done. We must hope that a Socialist Government, in a Socialist economic and political atmosphere, will have equal courage.

This provides a stable price system (with efficiency safeguards) upon which the producer may begin to base his output plans. But

¹ The use of discriminating powers here is as potent a weapon for the Socialist economy as its counterpart in prices offered for produce. For example, the establishment of rents bearing some “Ricardian” relation to each other and no discrimination in prices might be an easier method of securing efficiency in production. The landlord would of course be the State.

there still remains the uncertainty whether "*ex post*" output will bear any relation to "*ex ante*" output—i.e., will actual output be related to expected output? Two problems are mixed together in this context, and must be unravelled. If farmers as a whole experience a bad year with a crop, due to factors outside their control, then there is some case for not penalizing their income. If groups of farmers have a bad year owing to certain localized conditions, such as flooding, which are only in part within their control, there is every reason also that they should not be allowed to suffer unduly, and that the State should undertake those measures that are within human control to prevent the recurrence of such a catastrophe. But if individual producers consistently obtain lower yields than their neighbours similarly situated as regards natural facilities, then this represents a lower level of farming efficiency in the farmer, the uneconomic use of the land under his control, and every reason for a lower income and no State support. What will this mean in practice? In the first place, there must be an extension of research and education so that every producer may be expected to know how to control all that is within control. For the remainder—fluctuations in output not due to agencies within human control—special insurance provisions will have to be made. It must, however, be remembered that such fluctuations due to natural causes rarely affect every crop in the same way. Thus the mixed farmer has in any case some protection: he will make up on the savings of livestock fodder crops what he loses on cereals. (But to the extent that our efficiency policy leads to "specialisation" there will be a decline in this form of protection for the producer.) It is still, however, true that these fluctuations in output are broadly cyclical in their nature, being related, probably, to cyclical meteorological movements, and that therefore, over a period of years, the farmer's revenue might even itself out, even though from year to year it was unstable. But to rely on this factor alone must mean putting a tremendous strain on the farmer's middle-term credit facilities, and inevitably restricts him in the use of accumulated savings for purposes other than making up deficits in his current income when yields are low. What must not be done, is to give the farmer a payment per acre or per head of livestock, for, though this will stabilize his income, it offends against every canon of efficiency.

Equally, from the community's point of view, there are difficulties involved in planning food supplies when the actual amount called out by a given set of price differentials may exceed or fall short of that expected. Long-term deviations can, and should, be dealt with by changing the prices offered, but the burden of

much of what we have said has been that these changes must not be frequent and irregular. The short-term problem of adjusting supplies that are less than required can be met only by drawing on stocks or importing more: if supplies are greater than expected, by building up stocks, by exporting, or by releasing a greater quantity for immediate consumption. Now sudden changes in the amounts imported (exported agricultural produce is negligible) are not desirable, if world stability is being aimed at, and would probably be at sharply rising prices.¹ The adoption of a storage policy is the only real alternative. For some goods the methods of storage are well established—e.g., the cereals. For others the methods are known but need wider development—e.g., dehydration of vegetables and fruit, the condensing and processing of milk. In fact, there are no commodities for which prolonged storage is not now possible. The problem of fluctuating yield is then capable of being overcome by allowing any individual producer to ask that a certain part of the income due to him from the proceeds of a bumper year be held by the State organization as a deposit to be used to make up his income in a bad year. The "holding" body might well not be the State, but a co-operative producers' bank. Some farmers, of course, prefer to have the excitement of a fluctuating income, and we should not compel adherence to such a scheme.

Moreover, though it is not intended to argue the case in detail, it is clear that in storage lies the solution of the problem of seasonal production. "Efficient" production means very often production at that time of the year when natural conditions favour it—the "efficient" use of climatic factors of production, storage of the excess over current consumer-demands, and then release of the processed product in that period of the year when the climate militates against the natural product. "Glasshouse" farming, winter milk and December lambing may disappear.

This may seem a somewhat revolutionary suggestion. But what would be the human reactions of those whom it would affect? The *consumer* need not fear that it will be a case of no fresh fruit when it is in season, but plum jam all the year round, or lettuce fresh in two months only and dehydrated for the rest. It will mean much more that vitamin C sources will be available in sufficient quantities all the year round at reasonable prices—and that when so-called "fresh" lettuce is not available, tinned plums at a subsidized price will be. Nor, it is suggested, will the housewife or her family object very much if in the winter they have no fresh milk, but only condensed milk produced in the

¹ E.g., if the main crop potato yield is poor in Great Britain, it is generally poor on the Continent.

summer, if they appreciate that it is both cleaner, higher in vitamin content, and cheaper.¹ Particularly, it makes it more possible to retail milk at a constant price throughout the year.

The *producer*, it is true, tends to have only a seasonal occupation, but it is difficult to imagine that specialization would be so complete that he is engaged for less than nine months of the year on his main outputs or on activities related to them. In the winter relatively little might be on hand, which would provide that opportunity for farm-structure maintenance for which the working farmer now has so little time: more important, it would give the farmer time and opportunity to acquire those new techniques of production, and to plan his output, that the efficient utilization of his land will demand. To the *worker*, the abolition of 5.0 a.m. milking in the winter must have incalculable appeal, and the possibilities of providing opportunities for general and technical adult education and amusement will go far to raise his status and his skill, and contribute wholeheartedly to the new efficiency of production.

Moreover, to the *rural planner* the scheme must be attractive. Since all products to be processed must not remain longer in the raw state than is necessary to transport them to a local factory, small-scale factories throughout the countryside will become necessary. By thus breaking down the isolation and economic backwardness of the rural areas, and by providing opportunities for industrial employment close to the home of the rural population, we shall go a long way to stop the "drift from the land" and restore the virility of the village as a social unit. It is true that the processing of any individual product will be a seasonal job; but again the actual processing technique is not so very different from one commodity to another, and specialization of local production is hardly likely to have reached such a degree of concentration that spreading of activity over the greater part of the year is impossible. There are possibilities, too, of using such factories for preparing feeding-stuffs, or even for non-food industries in the slack times.

Conclusions

This, then, is what the economic basis of Socialist agricultural policy must be. It must be a policy directed by a social aim: to provide the highest possible standard of living and of food for the community, and not least among them the working farmer and his partners in production. It demands that vested interests, be

¹ For even if there be higher "overheads" on the farm in keeping dry cows through the winter, the lowering of retailing costs are so tremendous that the retail price must fall to a very low level.

they private landowners, monopolies of producers, wholesalers or retailers, must be expunged or made harmless, so that the population of this country may feed well and cheaply, and that the efficient producer may be adequately remunerated and safeguarded from economic distress. It calls, not for ruthlessness and lack of consideration for the need of others in the search for private profit, but for a conscious effort to develop one part of the national heritage to its fullest potentialities. It must indeed be a policy of Full Employment—the full employment of the natural and human resources of the land and those who work upon it.

CHAPTER FIVE

FARM SIZES AND LAYOUTS

By F. W. BATESON

THIS CHAPTER may be regarded as the sequel to Chapter III ("Britain's Nutritional Requirements"). Dr. Fraenkel has devoted that chapter to a discussion of the principles involved, and the data required, in the general strategy of a Socialist planning of British agriculture. We are here concerned with the tactics. Granted that so many acres of crops and so many thousands of livestock are needed to supply the country's nutritional requirements, how are these crops and stock to be distributed? Is it possible to lay down any guiding principles as to the considerations to be borne in mind in determining the optimum utilization of any piece of agricultural land? To what extent do existing farms and estates need replanning? What will be the most effective procedure to adopt if a regrouping of the existing farms and a redrawing of farm boundaries prove to be necessary? These are the sort of questions that this chapter attempts to answer. The writer is well aware that the answers provided are exceedingly sketchy, but this is partly because no serious attempt has hitherto been made by the technicians to face up to these fundamental problems.¹

The chapter is in three parts. We begin with (i) "Factors

¹ The persistence of mixed farming in this country has meant that farm enterprise has tended to be conditioned by present farm size and farm layout *without anybody realizing it*. It is only when you begin to specialize that it becomes clear that for your speciality there is a certain optimum acreage, with fields of a certain size distributed in a certain way. The mixed farmer, on the other hand, who comes into an elongated holding of 150 acres, for example, with the farmhouse and buildings on the main road at one end of it—a very common layout in England to-day—will by a process of trial and error gradually adjust

Conditioning Optimum Farm Size". Having obtained, so far as is possible, our ideal yardsticks, we proceed to the sobering realities of (ii) "Present-day Farm Sizes and Lay-outs". The final section, dealing with the application of the yardsticks of (i) to the facts of (ii), is (iii) "Re-drawing the Farm Boundaries".

(i) *Factors Conditioning Optimum Farm Size*

Efficiency.—"The farming inertia, which was probably the most unfortunate characteristic of British agriculture in pre-war years, owed more to the uncompromising size and lay-out of the farming units, outlined by rigid technical systems, than it did to true agricultural over-production or to world farming depression". This is the conclusion reached by S. M. Makings in his elaborate study *The Economics of Poor Land Arable Farming* (1944). It is the only conclusion an objective investigation of the facts permits. But it will be as well to make clear the basis of such a judgment. Dr. Makings is an economist, and his criterion is economic efficiency. Pre-war British farming was inefficient by economic standards because it was not paying its way in the open market of world agriculture. British food cost more to produce than food of equivalent quality produced abroad. Such considerations as these, though they remain important, are not the only consideration a Socialist Government would have in mind when re-planning British agriculture. Is there any contradiction between "economic efficiency", in the particular sphere of agriculture, and the general Socialist principles of *liberté, égalité, fraternité*? Or is it justifiable for us to apply to the rectification of farm boundaries and similar problems exactly the same considerations as are used by the agricultural economists?

Up to a point, at any rate, it will be generally agreed, there is no contradiction. On such issues as increasing the production of protective foods and decreasing the wheat and sugar-beet acreages, improving the technical qualifications of farmers, and re-equipping farms with new buildings and water supplies, economists and Socialists see eye to eye. There is some difference of opinion on the question of farm-workers' wages, but the difference even here is more apparent than real. If many economists do not support the present claim for a £4 10s. minimum, it is not because they have not realized the crucial signifi-

his cropping programme and his head of livestock to the special conditions he has inherited with the farm. The outlying field cannot be grazed by his milking cows because it is too far from the cowshed; it cannot be cropped with roots because there is only a field track to it and harvesting would be difficult; his dry cows and dairy replacements are not enough to keep it well grazed; he is therefore virtually forced to "mix" his dairying with either sheep or bullocks.

cance of the farm-worker under modern conditions. The whole tendency, indeed, in modern agricultural economics is to shift the emphasis from output per acre to output per man as the determinant of efficiency. Only a farming system with greatly increased output per man can afford to pay the wages that will be required to attract the type of worker who can be trusted with the expensive machinery that alone makes this increased output possible. Some Socialists have been apt to think that an increase in the minimum wage is all that is necessary. This is as big a mistake as that of some economists who think a change of farming system is all that is required. Both changes are equally necessary, and if either is to succeed they must be made together.

To the economists' criterion of "efficiency", therefore, we must add the rider "provided it is compatible with increased social welfare", though we shall not anticipate much serious disagreement under this head until we reach our third section, "Re-drawing the Farm Boundaries". Mechanization, which is the principal ingredient in modern agricultural efficiency, is socially neutral. However, as the conditions under which machines operate most efficiently—cleanliness, absence of damp, warmth, efficient springing, etc.—are also, if only incidentally, those welcomed by the workers, mechanization tends to raise general working conditions. Improvements in the breeding of crops and livestock also tend in the same direction, and artificial fertilizers, though dusty things, are at least neither so smelly nor so back-breaking to handle as farmyard manure.

Mechanization.—The following table, which was recently quoted by the *Economist*, shows the number of man-hours necessary for growing and harvesting one acre of wheat yielding twenty bushels under pre-mechanized, semi-mechanized and fully mechanized conditions.

	Man-hours.	
In 1830	55·7	Seeding and harvesting done by hand.
In 1896	8·6	Horse-drawn drill and binder.
In 1930	3·3	Tractor-drawn drill and harvester combine.

The number of days over which it is possible to spread the operations entailed in the growing of winter wheat is limited in this country to about 120 on most soils in a normal year. This means that one man, working an eight-hour day and devoting all of the 120 days to this crop, would have been able, on the basis of the table, to manage the following acreages of wheat:—

In 1830	17·2 acres.
In 1896	111·6 "
In 1930	290·9 "

Put in still another way, it means that in 1930 one man's output was equivalent to that of seventeen men in 1830 and two men and a youth in 1896.¹

Although future progress is likely to be slower, it is clear that output per man has been increasing so rapidly, at any rate on corn-growing farms, that farm boundaries based upon the technical requirements of to-day are in danger of being out of date to-morrow. On dairy farms the same process is in progress, though the differences between the centuries-old system of hand-milking and the latest refinements of machine-milking are not quite so spectacular. Twelve cows are usually considered as many as one hand-milker can manage; under pre-war English conditions twenty cows per milker was the average in machine-milked herds; in New Zealand in herds where the labour-consuming system of "stripping" the cows—i.e., finishing off milking by hand—has been abandoned the average is now said to be nearly fifty cows per milker. However, as corn-growing farms tend to be large and milk-producing farms to be small, the reactions of mechanization on existing boundaries and sizes are often equally acute.

Optimum Farm Sizes.—A farm is a production unit, and the law of diminishing returns, which limits its profitable expansion (or contraction) beyond (or below) a certain point, operates in terms of products, and not in terms of acres. It is obvious that an acre under glass is normally more productive than an acre in the open, and that an acre under vegetables is more productive than an acre under corn. Within each farming type, however, there is a fairly constant relation between acreage and production, and it simplifies discussion if the issue is stated, as far as possible, simply in acres. In Great Britain especially, where the acreage of really useful agricultural land is strictly limited, the question of acres must never be entirely lost sight of, though the overriding considerations must be efficiency in output per man and per machine.

With these qualifications in mind we can now approach the question of optimum acreages for the principal types of farming.

Corn-growing.—The decisive factor in cereal-growing is the scale of operations demanded of a combine harvester. If cereals are to be grown to compete in the world market, either directly, as with wheat and malting barley, or indirectly, as with oats and feeding barley (the competitors in this case being imported

¹ Recent developments in the U.S.A. suggest that the 1945 figure must be nearer 400 acres. J. A. Scott Watson has reported a case from the prairies where one man is now working 640 acres of wheat and 320 acres of fallow with no help at all, except one man at the harvest peak.

feeding-stuffs), it becomes necessary sooner or later to buy one. According to recent costings, combine harvesting is very nearly twice as efficient as the ordinary methods.

"The most reliable figures show that the cost of combining (including drying and transport) is 23s. 5d. to 40s. 6d. per acre, or 20 cwt., of grain. Depreciation accounts for more than one-third of the cost. These figures compare with recognized figures of 55s. to 70s. per acre for stacking and threshing, wages in each case being taken at 1s. 6d. per hour."¹

But savings of this order are made only if the combine is employed more or less continuously throughout the short corn-harvesting season. It is generally accepted that at least 30 acres should be harvested for each foot of cut the combine possesses. Now, according to P. R. J. McMorland, a Hampshire farmer with many years' experience of combines, an 8-foot cut is the size most suited to English conditions²—which implies, at 30 acres per foot of cut, an annual cereal acreage of not less than 240 acres. Even with the smallest combine now made, with only a 3-ft. 4-in. cut, at least 100 acres of corn would have to be harvested annually. The ratio of the cereal acreage to the total acreage of the farm will depend, of course, on the amount of permanent grassland as well as on the rotation followed on the arable land, but under normal English conditions farms specializing in corn-growing will probably have from 50% to 70% of their total acreage under either autumn-sown or spring-sown cereals. This means that the economic growing of corn crops is virtually restricted to farms of not less than 350 acres, though the use of the smallest combines may occasionally make it possible for farms of 150–200 acres to specialize successfully in cereals.³

Dairy-Farming.—The size of a dairy-farm is decided by the number of cows in the herd. A farm that is completely self-sufficient, both as regards feeding-stuffs and herd replacements,

¹ A. C. Hutt, "Combine Harvesting and Grain Drying", *Agriculture*, July 1943. The recent findings of the Cambridge Agricultural Economics Department (*Bulletin*, No. 9, 1944) are to the same general effect—e.g., average combine costs per acre of £1 8s. 11d. (straw ploughed in or burnt) as against average binder costs of £3 3s. 3d. (corn stacked and threshed).

² *Farmer and Stock-Breeder*, October 5, 1943.

³ There may appear to be a contradiction here of the figures previously quoted, which showed that one man can now work 300–400 acres of wheat. But these figures referred to a crop of only 20 bushels to the acre, which is about the U.S.A. average. In this country nothing under 40 bushels is considered a good crop, but we devote more time to the preparatory cultivations. The principal limiting factor on small corn-growing farms will be the possibility of access to a crop-dryer. Communal crop-dryers operated by a parish pool are a conceivable development. Farmers have already joined together in several areas to purchase dryers.

will require 4-6 acres per milking cow, the exact acreage depending on the natural fertility of the land and the skill with which it is managed. In the case of a farm where the calves are not reared and the concentrates are all purchased, 2-3 acres per cow will be enough to provide summer grazing and hay for the winter. The minimum economic size of the herd depends on the number of cows that reasonably efficient workers can milk in about 2 hours with a good milking machine. This varies with the size of the machine, the yield of the cows and the care with which each operation is carried out, but it is generally agreed that it lies somewhere between 60 and 30 cows.¹ Allowing an average of 5 acres per cow for the self-sufficient herds and 2½ acres per cow for the "flying" herds, we can reckon 150-300 acres and 75-150 acres as the minimum acreages respectively.

Vegetables.—The relevant factors are more difficult to isolate in this case. It is certain, however, that, with the possible exception of glass-houses, the minimum acreages required for the efficient specialized production of vegetables are greatly in excess of the average present-day market-garden. A fully mechanized market-garden is now said to require some 600 acres if the machinery is not to be under-worked.² For potatoes, which are sometimes grown on specialist farms but more often on mixed farms or large market-gardens, 100 acres is believed to be "about the most economic unit for lifting".³ As potatoes can only be grown with safety on the same land once every three years, owing to the need to control the eel-worm population, this implies a unit of not less than 300 acres.

Mixed Farming.—It is often difficult to draw the line between the genuinely mixed farm, in which two or more departments have been developed more or less independently, and the specialized farm with side-lines developed to utilize by-products of the main product. Moreover, the "mixture" can vary enormously on different soils and in different parts of the country. A vegetable and poultry small-holding is a mixed farm. So is a sheep and barley Downland farm of 500 acres. So is a cherry orchard of 10 acres on which poultry are run. But these are not the typical English mixed farms. The typical mixed farm combines dairying with the rearing or fattening of beef-cattle and/or grass-sheep. It will also keep a few pigs, a hundred or two poultry and grow a certain acreage of corn, partly for cash, but

¹ A. J. Hosier, the inventor of the bail system, uses sixty cow units; J. Drummond (*Charter for the Soil*, 1944) suggests fifty cows; F. Sykes (*This Farming Business*, 1944) prefers thirty cows.

² "Answer to Questionnaire on Agriculture" in *Creative Demobilization*, ed. E. A. Gutkind, 1943.

³ F. Richardson, "Potato Lifting", *Agriculture*, August 1943.

mainly for consumption on the farm. The following table, which shows the percentage of optimum production per acre and per worker obtained by typical mixed farms in one district in the Midlands during the period June 1942 to May 1943, provides a useful indication of the minimum optimum acreage for this type of farm.¹

Output per Acre and per Worker

Sizes of Farms.	Output per acre (% of optimum).	Output per worker (% of optimum).	Mean output.	No. of farms.
16-24 acres	106	51	79	5
25-49 "	105	53	82	15
50-74 "	95	71	83	38
75-99 "	90	73	82	30
100-149 "	89	95	92	50
150-199 "	84	120	96	41
200-249 "	79	109		31
250-299 "	80	117		13
300-399 "	76	98		22
400-499 "	79	126	100	8
500-599 "	70	90		3
600-799 "	86	134		2
800-999 "	95	138		2
Over 1,000 "	80	108		2

It will be seen from this table that, though output per acre decreases and output per worker increases as the farms get larger, the output combining the highest efficiency both per acre and per worker is found only on farms over 400 acres in size. It may be presumed, therefore, that the optimum farm size for the type of mixed farming practised in this district is 400 acres *plus*. If the 245 farms under this acreage were regrouped into ninety farms of not less than 400 acres each, the increase in mean output—i.e., in efficiency—would theoretically be expected to be of the order of 7%. Similarly, if the eighty-eight farms under 100 acres were merged into fourteen large farms, the increase in efficiency might be expected to be approximately 18%. Some deduction must, however, be made from these figures, as several of the smaller farms are really part-time concerns, combining farming with e.g. a public-house or a retail milk round.

The Cambridge *Economic Survey of Agriculture in the Eastern Counties of England* (1931-33) provides some confirmation of these results, although the survey included a number of non-mixed farms, output per worker being highest on the 300-acre farms and output per acre following very much the same course as in the

¹ The formula used in this table will be found in the appendix to Chapter VIII below.

previous example. The 300-acre farms were 18% more efficient in their utilization of labour than the 20-50-acre farms. An investigation made by the present writer into the labour shortage in another mixed farming district in 1941 revealed that the farmers of 250 acres and over were 23% more efficient in their use of labour than the farmers with less than 100 acres. The increases in efficiency over 250 acres were comparatively modest. An analysis of the Oxford Costs of Milk Production figures shows a similar tendency. Except in the machine-milked herds labour costs are lowest in the thirty to forty cow herds, though other savings counterbalance the increased labour costs in the larger herds.

Summary.—The preceding discussion makes it possible to draw some provisional conclusions. Although no doubt some exceptions can be found, it is clear that maximum economic efficiency—as measured by output per man¹—is only attainable, broadly speaking, on farms of 150 acres and upwards of averagely fertile land. Of the farm types examined only the “flying” dairy herd can be expected to prove an economic proposition on a smaller acreage. On the other hand, mixed farms and most arable farms will generally require at least 400 acres to make full use of the various agricultural machines that are essential if the labour bill is to be kept down. These conclusions are in general agreement with those reached by the *Economist* in a recent article:—

“Farms of less than 150 acres are too small for the use of many kinds of modern machinery, although the extent to which this is a handicap depends on the type of farming. Dairying, for instance, can still be conducted on 100 acres with reasonable efficiency. But, even in dairying, a herd of at least thirty cows is desirable for the introduction of a milking machine, and a unit of some sixty cows for the employment of the Hosier open-air system, and most dairy farms fail to meet even these standards. The advantages of large farms are still more obvious in other respects, such as specialisation of labour, opportunities of promotion for the farm-worker, and cheap and efficient marketing. Probably a minimum of 200-300 acres is necessary for fully efficient farming.”²

¹ Strictly the measure is the annual ratio between cash input—including interest on tenant's capital (livestock, implements, etc.) and allowance for labour of the farmer and his family, as well as wages, rent, seeds, fertilisers—and cash output—i.e., sales of produce plus increases or decreases in the live and dead stock as determined by an annual valuation. However, as labour costs are much the biggest single item in a farmer's expenses—about a third of the total outgoings, whereas rent accounts for only 8% or so—output per man provides a sufficiently reliable yardstick.

² December 23, 1944.

(ii) *Present-day Farm Sizes and Layouts*

Farm Sizes.—Until the findings of the National Farm Survey are made public, the basic data will continue to remain the pre-war *Agricultural Statistics* which were issued annually by the Ministry of Agriculture. The relevant facts are summarized in the following table:

Average Farm Acreages: England and Wales, 1885-1945

	1885.	1913.	1921.	1930.
Total no. of holdings	452,988	435,677	420,133	395,823
Total average agricultural land	27,698,000	27,129,000	26,144,000	25,380,000
Acreage of average holding	60 acres	62 acres	62 acres	64 acres
Holdings of 1-5 acres	25.22%	21.18%	19.33%	18.44%
Holdings of 5-50 acres	44.20%	45.71%	46.92%	45.96%
Holdings of 50-100 acres	12.19%	13.61%	14.52%	15.59%
Holdings of 100-300 acres	14.81%	16.40%	16.15%	16.92%
Holdings over 300 acres	3.64%	3.10%	3.08%	3.09%

	1935.	1938.	1945 (estimated).	
Total no. of holdings	379,727	365,972	330,000	
Total average agricultural land	24,957,000	24,711,000	24,000,000	
Acreage of average holding	66 acres	68 acres	73 acres	
Holdings of 1-5 acres	17.69%	17.05%	16.00%	
Holdings of 5-10 acres	44.49%	44.52%	40.00%	
Holdings of 50-100 acres	16.41%	16.86%	17.00%	
Holdings of 100-300 acres	18.27%	18.29%	21.00%	
Holdings over 300 acres	3.14%	3.28%	6.00%	

It is the *trends* observable in this table that deserve attention. The actual acreages of the "average holding" (which is a statistical abstraction in any case) have no particular significance. They are based upon the number of agricultural returns made each June 4 and, as is well known, although farmers are instructed to make a single return for all land that is worked together, they do not in fact do so. In 1941 the Ministry of Agriculture's estimate was that only 230,000 of the 360,000 returns then made represented "separate agricultural enterprises". On the basis of some recent county surveys we may also confidently suspect that a further 60,000 holdings are not *bona-fide* full-time farms at all, but accommodation land, parks, spare-time holdings, private gardens, sports grounds, etc. The 1945 acreage of the average farm, when these deductions have been made, is probably, as far as can be estimated, about 125 acres,

instead of 73 acres. There are, however, still many more farms under 100 acres than over it.

The table makes it clear that, with the exception of the holdings of 1-5 acres (which have been declining continuously since 1885) and the 50-100-acre holdings (which have been steadily increasing), the tendency up to the 1920's was one of contraction. The small-holdings multiply and the large farms decrease. But after 1921 the opposite process of expansion set in. In spite of the diminishing agricultural acreage, there is an unmistakable tendency for farms to get bigger, and by 1945 there are apparently more large-acreage farms even than in 1885.

Farm Output.—The question whether the undoubted farm acreage increases since 1921 have lagged behind the general expansion made possible by the growth of mechanization can be partly answered if acreage trends are correlated with output trends. The following table is based upon the index figures of net output—i.e., calorie values adjusted by cash values with all imported feeding-stuffs discounted—worked out by O. J. Beilby.¹ In conjunction with the figures from the *Agricultural Statistics*, they provide a convenient conspectus of what has been happening to English agriculture during the last sixty years.

Average Farm Output: England and Wales, 1885-1945
(1885 = 100.)

	1885.	1913.	1921.	1930.	1935.	1938.	1945 (estimate).
Acreage of average holding . . .	100	103	103	107	110	113	122
Total agricultural output . . .	100	93	92	106	115	111	170
Output per acre . . .	100	95	99	121	136	136	232
Output per holding . . .	100	98	103	129	150	154	282
Output per man . . .	100	95	104	131	152	161	220

It will be seen that this table confirms the impression of a relative stability in agricultural conditions up to the 1920's. Since 1921, however, although farm acreage has increased by only nineteen points, farm output is up by 179 points. It is clear that farmers have found it easier to expand their output by using more intensive methods on the land they already had than to take on more land. But, other things being equal, this is the opposite to what one would have expected. Increased output

¹ "Changes in Agricultural Production in England and Wales", *R.A.S.E. Journal*, vol. c, 1939.

since 1921 has been due mainly to the partial supersession of the horse by the tractor.

Horses and Tractors (England and Wales)

	1914.	1925.	1939.	1944.
Total horses (agricultural), .	791,297	773,200	548,921	487,000
Total tractors	5,000	16,661	48,750	135,000

Now, the tractor is essentially a source of power for extensive rather than intensive farming. It does the horse team's job more quickly and more cheaply, but not necessarily, or indeed generally, *better*. Similarly, the milking machine enables one man to milk more cows, but yields per cow are almost invariably lower than where hand-milked. This being so, it is fairly clear that the trend to intensification must be the result of the difficulties farmers met in expanding their farm boundaries. The free play of economic forces, so far from automatically providing them with scope for expansion, has in fact diverted them to a type of farming technically less suited for mechanization.

Perhaps the most interesting feature in the table, however, is the close parallelism up to 1938 in output per holding and output per man. This seems to prove that up to then, at any rate, intensified methods succeeded in keeping the slight increases in average farm acreages in pace with the formidable enlargements in each man's output that were the result of increasing mechanization. Since the beginning of the war, however, output per man has fallen behind both output per holding and output per acre. This can only be attributed to under-employment of the enormous quantities of new machinery due to many farms being over-equipped for their acreages. The serious thing is that whereas up to 1939 expansion in output was obtained on the average without an increase in the number of workers per farm, in 1944 the position has been reached that there must be either (1) an increase in the number of workers per farm, or (2) still greater mechanization to improve each worker's output, or (3) a return to a lower level of productivity per holding. As the requisites of (1) and (2), skilled workers and small-scale machinery, are in short supply, (3) seems to be the likeliest outcome. There is, of course, also a fourth alternative. But before discussing the ways and means of State intervention, it will be as well to analyze the factor that has been the main cause of the failure of private enterprise to provide the larger farms that would alone have given fullest scope to the new machines, and so increased output

without further man-power being required. This is the over-rigid system of land tenure.

Land Tenure.—The landlord and tenant system has now come to the same dead end as the copyhold tenure which it displaced in the eighteenth and early nineteenth centuries. Under the open-fields system real expansions and adjustments of holdings in the arable fields were possible only as long as there was still the communal "waste" or rough grazings, on the outskirts of the parish, from which new individual holdings could be carved out. As soon as all the cultivable land in a parish had been brought into cultivation, rigidity began to set in. Instead of a symmetrical series of strips in each of the three fields, a farmer tended to find himself with a dozen or more quarter-acre or half-acre patches scattered irrelevantly over each of the fields. And the more successful a farmer was, the worse patchwork his land became. The Enclosures tidied up this sort of thing. The scattered strips were replaced by compact holdings of more or less the same acreage, and the improved lay-outs led to considerable increases in efficiency. But as farmers prospered under the new system the old situation began to repeat itself. If a farmer wanted to expand his scale of operations he had either to find another larger farm (which was often a leap into the dark), or to enlarge his existing farm by renting what land he could find that might be worked with it. Occasionally in the latter event he would be lucky and an adjoining holding would fall vacant, but more often he would have to take what he could get—some off-lying fields, the grazing rights in a neighbouring park, or perhaps a complete farm at the other end of the parish. What elasticity the system possessed was mainly due to the large number of small-holdings carried over and, as it were, *embalmed* by the Parliamentary Enclosures. (Even to-day parishes that were enclosed by a Private Act can often be distinguished from the non-Parliamentary enclosures by their greater number of owners of land.) These plots of 5 to 30 acres tended during the nineteenth century to degenerate into spare-time holdings with little agricultural significance, and it was relatively easy for the more energetic of the larger farmers to obtain them on short leases. Lay-outs suffered, but as long as the supply of the small plots exceeded the demand, some picking and choosing was possible, and the inconvenience was not intolerable. It is only recently, as the increase of mechanization has led to a *general* demand for larger farms, that the limits of this process of expansion have become apparent. The worst examples are still relatively rare—*e.g.*, farms in five separate blocks under different landlords—but they have been increasing rapidly since the war began, and are already giving

the W.A.E.C.s a headache.¹ As alternate husbandry invades the old two-compartment counties, in which parts of the farm were always arable and the rest always permanent grass, the embarrassments and loss of efficiency due to bad lay-outs may lead to a complete breakdown of private landlordism.

Farm Lay-outs.—Unfortunately farm lay-out is a matter that has so far received very little serious investigation. Primrose McConnell's "Score Card for Judging Farms" includes three items: (i) "Shape and size of fields"; (ii) "Nearness of fields to homestead"; (iii) "Homestead, site central", which come under this heading, and presumably the maximum score obtainable for these items, sixty out of 1,000, reflects the degree of importance attached to lay-out in the nineteenth century.

More recently J. L. Davies has gone into this matter of lay-out in considerable detail.² Davies measured: (i) general shape—boundary line per acre, (ii) average distance of field gates from yard, (iii) length of fences per acre, (iv) average size of field, and (v) average size of plot (*i.e.*, the subdivisions of an arable field) on sixteen Welsh farms, and out of the figures so assembled calculated an "index of lay-out" for each farm. The index appears to be rather arbitrary, as it attaches equal weight to each of these five aspects of farm lay-out, but it is interesting to find that on the six farms with worse than average lay-out actual hours worked per acre exceeded the theoretical labour requirements by 19%, whereas on the nine farms with better than average lay-out actual hours were slightly less than the theoretical requirements. The sample is, of course, too small to justify any general conclusions, but Davies's study does at least suggest that McConnell seriously under-estimated the importance of lay-out in farm economy. This conclusion also received some support from the following table, which summarizes the 1943 position on all farms of 100 acres or more in one of the Home Counties:—

Total no. of farms	1,351
Farms well managed	434
Farms with indifferent or poor management	917
Total no. of farms with compact lay-out	706
Percentage of well-managed farms with compact lay-out	63%
Percentage of indifferently or poorly managed farms with compact lay-out	47%

It will be seen that there is apparently some connection between good lay-outs and good management. Either the farms with good lay-outs have attracted the better farmers, or the good lay-

¹ Instructive examples will be found in the Oxford Agricultural Economics Research Institute's *Country Planning* (1944) and S. M. Makings's *The Economics of Poor Land Arable Farming* (1944).

² *Welsh Journal of Agriculture*, vol. vii (1931).

outs have made it easier for their occupiers to farm well. The most interesting feature of this investigation was the much higher proportion of good farmers on farms with good lay-outs in the arable districts than in the pre-war all-grass districts. In the all-grass districts, indeed, there would not seem to be any relation between good lay-out and good management. In the arable districts, on the other hand, the better farmers with conveniently laid-out farms outnumber the poorer farmers with good lay-outs by two to one. This is a fact of considerable significance, in view of the enormous expansion of ley farming called for in all recent programmes for British agriculture. In many parishes on the clays the farms run down, one field wide, in long strips from the higher and dryer land on which the village clusters. Under an all-grass or a two-compartment husbandry such a lay-out presented only minor inconveniences, but it is wholly incompatible with a system of grazing leys, since the only way to prevent the farther fields being cut off when the nearer fields are cropped is by fencing off special passage-ways—a laborious and expensive business which results in the passage-ways becoming badly “poached”.

Field Sizes.—A word must also be said about field sizes. It is well known that field acreages tend to decrease on the smaller farms. In an analysis of 1,000 East Anglian farms R. McG. Carslaw showed that there is a fairly constant relationship in that area between farm size and field size:—

*Field Size and Farm Size in East Anglia*¹

Size of Farm.	Arable Fields.	Pasture Fields.
20–50 acres	6 acres	4 acres
50–100 "	8 "	5 "
100–150 "	10 "	7 "
150–300 "	14 "	10 "
300–500 "	19 "	13 "
Over 500 "	24 "	20 "

This feature may be a survival from the enclosures. According to W. H. R. Curtler,² the enclosure commissioners adjusted the size of the new fields to the size of the farms, “varying from 5 to 10 acres for small farms to 50 or 60 acres on large ones”. Its effect on farms which are being enlarged by the incorporation of adjoining smallholdings is bound to be a reduction in efficiency. A ley-farming expert has recently stated that fields of less than

¹ *The Farm Economist*, vol. i, 1933.

² *Enclosure and Redistribution of Our Land*, p. 164.

8 acres or more than 18 acres are not suitable for alternate husbandry,¹ and Carslaw has worked out exactly what the losses are in ploughing a 1-acre or 3-acre field as compared with a 9-acre or 27-acre field.² By taking over a group of small fields from a smallholder, a farmer may find himself saddled with fields that are too small for him to use economically, and there may be no alternative to grubbing the hedges and piping the ditches—both expensive operations.

Summary.—At this point it will be as well to summarize tentatively the conclusions that have so far emerged:—

(a) The *Agricultural Statistics* make it clear that farms have been getting bigger recently.

(b) This process of enlargement has been mainly due to increasing mechanization.

(c) Although things went fairly smoothly until 1939, it now looks as though since the war output per worker has not kept pace with output per acre.

(d) A partial explanation of this may be that most farms have expanded recently by taking over the nearest smallholding they could find vacant.

(e) This has made their lay-out inefficient, and the small size of the new fields they have taken may over-accentuate this inefficiency.

(iii) *Re-drawing the Farm Boundaries*

Problem Stated.—It will be remembered that the post-war nutritional requirements of this country were estimated to involve doubling the pre-war supplies of liquid milk, vegetables and fruit as well as substantial increases in several other commodities. (See Chapter III.) We have already seen that the minimum acreage on which these forms of production can be mechanized economically, speaking generally, runs from a farm acreage of 150 acres to one of 400 acres. However, if we may trust the *Agricultural Statistics*, 56% of our existing holdings are under 50 acres in extent, and 73% are under 100 acres. What possible prospect is there, then, of obtaining the increased production that is nutritionally desirable as long as so much of our farmland is cultivated in small uneconomic units?

Theoretically there are three ways in which the increases of production could be obtained. All involve the intervention of the State; all are therefore forms of nationalization. The first is the guarantee of really high prices. This would undoubtedly “draw out” the required quantities of milk, vegetables, etc.,

¹ *Agriculture*, April 1943, p. 8.

² *Journal of Yorkshire Agricultural Society*, 1930.

without much revision of farm sizes and lay-outs being necessary, but it would put an intolerable burden on the general taxpayer. The second method—which is discussed more fully in Chapter VI below—is the wide extension under State supervision of co-operative devices, such as parish machinery pools, which would to a certain extent provide the smaller farms with the benefits of mechanization. This might involve subsidies for the pools, etc., but it would be a better investment for the community than the first method, because the subsidies would tend to increase efficiency instead of maintaining inefficiency. The third method is that advocated by Dr. C. S. Orwin and Sir Daniel Hall—viz., the buying out of all private landlords and occupiers, area by area, and the re-planning and re-equipping of the land on up-to-date lines by the State, which would eventually let the new farms to competent tenants. This third method is generally believed to be the Labour Party's policy. It is more likely—and in our opinion more desirable—that the full rigours of the third method will be tempered under a Socialist Government with the mercy of the second. This is a case where the logic of the economist runs foul of the ethics of the Socialist. It is perhaps true that the quickest way to obtain the maximum agricultural production at the lowest cost would be to work steadily through the country, parish by parish, replanning, rebuilding, laying out new fields and roads, installing new supplies of water and electricity, and so on. We know it could be done, because for nearly half England it has been done once before. The Parliamentary Enclosures are the exact prototype of the brand of nationalization advocated by Orwin and Hall. But, as those who have read the Hammonds' *Village Labourer* will not need to be reminded, the Enclosures, in spite of all the technical benefits they conferred on the progressive farmer, were a social disaster. In their essential natures countrymen have not changed much in the last hundred years, and wholesale evictions and expropriations, however cushioned by compensation and offers of alternative employment, might still engender the same bitterness.

Outline of a Solution.—As Socialists, we must insist that the process of transition to larger and tidier farms is (a) democratic, (b) State-controlled. With the lesson of the Enclosures in front of us, we must also see to it (c) that every precaution is taken to avoid unnecessary hardship, and (d) that the new lay-outs have a certain flexibility, so that another process of eviction does not become necessary in the next century. These are the four tests we are entitled to apply to any proposals that are made by the technicians for the rationalization of farm boundaries. (Orwin's and Hall's suggestions, the most detailed of recent proposals,

fall down on *a* and *d*, and to some extent on *c*.) It is on the basis of these tests that we are now putting forward our own proposals.

The first step, we suggest, will be the formation, under the supervision of the County Agricultural Executive Committees, of local advisory committees of farmers and farm-workers, to be elected annually on a parish basis by all occupiers of land making an Agricultural Return and all full-time farm-workers included in an Agricultural Return. (Further discussion of these "Parish Pools" will be found in Chapters VI and VIII.) These committees would be encouraged *inter alia* to set up, with County assistance, co-operative packing-stations and dairies, to operate communal threshing-sets and grass-dryers, to join in district artificial insemination centres, and to purchase their requisites through a County Co-operative Society. Special subsidies might be made available for such activities.

The next step will be for the Ministry of Agriculture, working through the County Agricultural Executive Committees, to consult the local committees on the lay-out problems of the parish. The combination of direction from above with local knowledge from below will reduce to a minimum the danger of mistake and the possibilities of hardship. In some parishes it may well be that by specializing cattle-rearing on the smallest farms—which can do that particular job more efficiently than larger farms—and milk production from grass on the medium-sized farms, and restricting arable farming to the large farms, no important changes in the actual acreages of the farms need be made. There will certainly be no need, except possibly on the lightest and heaviest land, for the 5,000-acre farms that Sir Daniel Hall hoped to establish. All the advantages of the "factory farm"—central accounting, central buying, the very best machinery and technical information, large-scale marketing, etc.—could be made available on a co-operative basis to any farm that has reached the minimum optimum acreage for its type and area. Moreover, a group of farms loosely tied together through a co-operative society is a much more flexible unit than a single 5,000-acre farm, and is far less at the mercy of one incompetent manager. It is impossible to predict what the optimum farm size of the next generation will be. There is some solid sense in D. R. Bomford's recent comment that "the social upheaval attending the process of compelling the wholesale re-organization of land occupation and ownership may present greater difficulties than would be encountered in designing and providing the machinery necessary to enable the small farmer to give to the community economical service and to himself a reasonable living standard".¹

¹ *Farming Handbook*, no. 2, 1943, p. 112.

The next stage may well be a general return to the small farm. The Brave New World, which brings with it a 40-hour week, and a great increase in the average age of the population, is also likely to see a great increase in the number of part-time and spare-time holdings. (Although cereal-growing will never be worth while on a small scale, poultry-keeping may conceivably pass entirely to the part-time man.) Under such circumstances it would be very much easier to break up a group of small farms than one large farm.

Even lay-out problems may very well prove a good deal less serious than they look on a map. As the editor of the *Farmer's Weekly* put it the other day,¹ "When you come to look at individual cases there is generally a very good reason for that outlying field, such as giving a good farm a bit of 'store' land or the poor farm a bite of early grass". We must resist the temptation to tidy up for tidying-up's sake. If we restrict our attention in the first place to farms and fields that are producing a good deal less than others in their neighbourhood—the Hampshire "efficiency barometers" (see Chapter VIII below) provide a reliable statistical check on this—we shall be able to point to immediate increases in production as the result of our efforts, and our hands will be strengthened for further and more ambitious exercises in re-planning. Furthermore, in such cases there will be no need to wait for the tenant to die or for an owner-occupier to agree to going bought out. The existing powers of the W.A.E.C.s already cover such cases. A "C" farmer can be ejected and a "C" landlord can be dispossessed because they are unable to manage or equip their land in a husband-like manner. It is farms and estates of this nature that demand the intervention of the State. The State can do no better service to agriculture than to take over such land, and in conjunction with the local committee lay it out in blocks of 150-400 acres so as to utilize roads, buildings and contours in an intelligent way, re-equipping it as far as is necessary, and then letting it to an efficient tenant—who will often have been the best of the farmers on the original farms from which the new farm has been built up.

¹ August 13, 1943.

CO-OPERATION IN AGRICULTURE

BY R. S. G. RUTHERFORD AND F. W. BATESON

(a) The Socialist Attitude to Producers' Co-operation.

IT IS not the purpose of this chapter to discuss the general principles of agricultural co-operation. Much has been written about that already, and nothing of value can be added in this place. But it is necessary for Socialists to consider carefully what their attitude to producers' co-operation is and should be.

At the economic level "co-operation" is simply a form of combination, with the private benefit of the individuals co-operating as its mainspring. The Rochdale pioneers were working men; but their movement represented the attempt of consumers to combine together to exert bargaining pressure upon the wholesalers of consumers' goods—in economic terms the attempt of consumers to establish some sort of monopolist strength against the corresponding monopolist powers of the sellers of the goods they wish to buy. In so far as this prevented the wholesalers and retailers from securing their undeserved monopoly profits, it amounted to a redistribution of the national income in favour of the wage-earning classes, and, as such, is clearly worthy of Socialist support. There is then a genuine connection between the Consumers' Co-operative Movement and Socialist doctrine; the Consumers' Co-operative, like the Trade Union, is a means whereby the worker can defend himself against the injustices of the capitalist system.

Can the same be said of Producers' Co-operation? This represents the combination of producers in order to secure a larger share of the national income; but such a larger share can only be obtained either by enabling producers to sell a restricted output at higher (monopolistic) prices while their costs are unchanged, or by enabling them to produce their output at a lower cost while maintaining their selling prices at the previous level. If the goods are to be sold at a higher price, then the producers' increased income can be obtained only at the expense of monopolistic or inefficient processors and retailers, or at the expense of the consumer—the working classes. If costs of production are to be lowered, and prices of sale to remain constant, then in the short run the increased income derives from eating into the profits of those people providing the producer's requisites (including those providing him with

labour; but in the long run, too, the consumer pays, for if production is possible more cheaply than before, the consumer has some right to expect a lower price for the commodity. Why, then, should Socialists be in favour of any scheme of producers' co-operation except as an intermediate stage before the monopolies of distribution have been broken or controlled?

Why, moreover, should producers' co-operation be necessary if we advocate a guaranteed price system which is comprehensive, and which takes care that no retail-wholesale margin is high because of technical inefficiency or monopoly elements. By providing this sort of price set-up, shall we not have removed the major factors tending to encourage producers' co-operation?

Is there any answer on a social level? The point is often made that there is a fundamental human need for some people to be their own masters—that the life of the smallholder or small family farmer is one that gives great spiritual satisfaction, and must be maintained. The language of the exponents of this view often sits oddly in the mouths of professed Socialists; but there is more of value when expressed in the tradition of Guild Socialism and William Morris, that there is a virtue in not being a "wage-slave" and being able to control one's own destiny. The small producer is not a capitalist bloated on the life-blood of his workers—he rarely has any workers in his employment save his family! Though combination *may* give him a certain monopolistic position *vis-à-vis* the rest of the community, the social benefit, if not the social necessity, of maintaining him, justify encouraging those forms of co-operation which give him this position. In fact, this form of protection is probably less powerful than that enjoyed by the average industrial worker through his Trade Union: without it he, and more particularly his family, are and will become increasingly more so, the worst sweated workers in the country. And with the return of the ex-serviceman, in so many of whom has grown the desire to be their own masters and to do a "real life-sized man's job of work", the problem has again become acute. If they are not settled in co-operative holdings, years of extremely hard work, low standards of living, and final collapse into bankruptcy will once again be the fate of a large majority. Once more, then, we can establish fairly simply that producers' co-operation, while capitalism still exists, is something to which Socialists may give qualified support. The question still remains whether a Socialist State could not achieve the same ends by better means?

But the matter cannot be dismissed in quite this way. Let us re-examine the argument and see whether there are any flaws.

In the first place, *does* a system of guaranteed prices for all agricultural products make co-operation unnecessary? Guaranteed prices for an agricultural product entail some requirements about quality. If the quality of the article can be determined easily, and each producer markets at any one time only a single unit of an even quality—such as a fat animal, or a consignment of milk—then this presents no real difficulty: a fat pig needs only to be weighed, and milk needs to be distinguished only into T.T., Pasteurized or Raw,¹ things which are known before the commodity is delivered to the collecting centre. But when we come to other products, there are considerable differences. Guaranteed prices still have their place, but they *must* be related to very definite quality standards. Consignments from any one producer are necessarily not of one uniform standard, and before the producer is remunerated they must be graded. Grading by the individual producer on the farm and the separate packing and consignment of each quality is one solution; but it is a method involving a tremendous *wastage* of transport and package facilities, let alone *inefficiency*. The centralization of grading and consigning of vegetable products must obviously be done on a larger scale than that of the producing unit. It might well be done at some central agency of the State purchasing organization. But there again the optimum size for the purchasing organization to work efficiently is likely to be very large and its intake to cover a very large geographical area. There is an obvious need for some middle-sized organization to deal with the particular problems of grading and transport at the optimum size for *that* process. That size will probably be approximately such as to deal with the produce of a 10-mile radius in areas concerned with the production of vegetables and fruit, but it may have to be smaller or larger for certain areas and certain products. It should be noticed, too, that for the *bulking and processing* (if not grading) of many other products, particularly milk, there is a similar need of quite small collecting centres. Now, such collecting centres might conceivably be merely organs of the central organization, but there seems every reason to encourage a living democracy in the industry by placing them under some sort of control by the local producers. Even though the level of prices for each quality will *not* be within the control of the producers, there must be every incentive to improve the quality and secure efficiency in the transport of supplies to the larger purchasing organization. Efficiency here will be encouraged by higher net returns to the producers, and the efficiency can only be obtained by co-operation. There are, then, valid reasons for encouraging producers

¹ Though a price related to total solids content would be more desirable.

to co-operate in preparing, grading and transporting their goods, even under a comprehensive system of guaranteed prices.

If co-operation can bring efficiency in the direction of preparation for market, it can also bring efficiency in the actual processes of production (indeed, the two cases are only superficially distinct: "production" is not really finished until the consumer purchases). The common ownership of certain machines which would be uneconomical for any one producer to purchase, the bulk purchase of seeds and fertilizers are obvious fields where co-operation is possible without the consumer being penalized. Under the present system such societies have a long record of growing success—in contradistinction to the marketing societies. But the possibilities are not restricted to the purchase of requisites. The common use of first-rate breeding stock, the common employment of the expert pruner among market-gardeners, an educative service whereby the results of recent research can be demonstrated to each producer are all functions that can well be undertaken by such an organization.

Nor is this all. We have compared Producers' Co-operation with Trade Unionism at one point above. In much the same way as Trade Unions in a Socialist State would be primarily concerned with ensuring that the *conditions of work* were satisfactory, and not with wage-rates, so Producers' Co-operatives may properly have a large word to say concerning the social conditions of the countryside, and very little to say about price levels for their produce. Not social conditions, too, in only the widest and vaguest sense, but in the sense of providing relief milkers, and even relief farmers, so that milking is no longer a seven-days-a-week job, nor farming a fifty-two-weeks-a-year one.

The second part of this chapter is concerned with the detailed examination of the possibilities of producers' co-operation in the processes of production. Here it is only intended to point out why co-operation to determine prices at the expense of the consumer is rejected in Chapter IV, but co-operation to secure what Marshall would have called the external economies of the industry is being advocated in this place. The two cases are distinct, and it is most important that Socialists should think clearly about them. The former is rejected because it benefits producers by reducing the income of consumers. The latter is commended because in the short run it increases the efficiency of production. It does no harm to consumers, and makes it possible to maintain ways of life that certain individuals are seeking after, but which in its absence would yield an extremely low standard of living. In the long run, too, as production becomes increasingly efficient the output forthcoming at any given price

becomes greater in quality or better in quality, and the consumer may be expected to receive his share of this either as a reduction in the price of the finished good, a diversion of home resources to the production of consumer goods for the home market (as the need to import food and to export others to pay for them diminishes), or reduced levels of taxation (as the gap between receipts and outgoes of the body controlling food purchases diminishes) or increased social sources (in the same case).

(b) *War-time Developments in Producers' Co-operation*

The theoretical advantages of producers' co-operation in agriculture, which have been discussed in the preceding section, are considerable. But the history of agricultural co-operation in this country has been chequered and inglorious.¹ In comparison with such countries as Denmark, Holland, Ireland and Czechoslovakia, it is true to say that the co-operative idea was virtually non-existent in England before the war. What successes had been obtained were mainly in the field nearest to consumers' co-operation and farthest from co-operation in the actual processes of production. Joint ownership of farm machinery, for example, was limited to a few co-operative threshing societies, which had survived from the last war. (Membership was generally limited to a few large farmers, but the threshing tackle was also hired out to non-members.) On the other hand, requisites' societies, dealing in animal feeding-stuffs, fertilizers, seeds, the purchase of farm implements, etc., were relatively common, though in this, as in other forms of agricultural co-operation, England lagged behind Scotland and Wales.

The failure of English co-operation before the war set Socialist agricultural reformers a difficult problem. On the one hand, there were the technicians, like Sir Daniel Hall and Dr. C. S. Orwin, who told us that the small farm was now obsolete and that the objective of nationalization was to regroup farms into blocks of 5,000 acres or so. And this sort of argument was reinforced by propaganda about the Russian collective farms. On the other hand, there was the certainty that no Labour Government would risk the odium of tons of thousands of notices to quit. The lesson of the Enclosure Movement has at least been learned by the Left. Moreover, the small farm possesses social virtues which no reformer, however devoted to economic truth, can altogether overlook. It was an *impasse*, out of which

¹ The peak year was 1920, when there were 381 societies in England with a total membership of 84,729. In 1930 there were 230 societies and 67,526 members. Some farmers belong to more than one society. See the Horace Plunkett Foundation's survey, *Agricultural Co-operation in England* (1930).

the only escape seemed to be a very gradual and heavily subsidized, transition to larger farms.

That this was unnecessarily defeatist has now been demonstrated by the large number of co-operative experiments and developments that have resulted from the war-time drive for increased food production. It is now evident that there is nothing in the English soil or the English character that is irrevocably hostile to agricultural co-operation. We can see that, given the right circumstances and setting, English farmers can co-operate as loyally, intelligently and efficiently as those of any other country in the world. There is still much to be learned, but the possibilities of a healthy English producers' co-operative movement have been proved.

What are the conditions necessary for the flourishing of a farmers' co-operative movement? If we can establish what it was that was lacking before the war and the degree to which the missing conditions are now present, we should be able to deduce the long-term measures that are necessary if co-operation is to be a permanent and important element in the agriculture of a Socialist England. This section, therefore, falls into three parts: (i) pre-war obstacles to farmers' co-operation; (ii) parish machinery pools and other war-time innovations; (iii) the future of agricultural co-operation.

Pre-war Obstacles to Farmers' Co-operation.—Comparisons between the farmers' co-operatives of the Continent and the inglorious British representatives generally conclude by laying the blame on British individualism, or the absence of a homogeneous social status among British farmers, or the extreme variations in size between farms in this country, or the fact that producers are not catering for an export market. In some of the countries where agricultural co-operation has been most successful—e.g., Czechoslovakia—these factors have been absent owing to the survival of the mediæval peasantry, and it has sometimes been assumed that the possibility of agricultural co-operation in the modern sense disappeared in England with the virtual extinction of the peasantry during the Enclosures. It will be generally agreed that the social gulf separating the farmer from the farm-worker was the product of the Enclosures. Under the open-fields system there was no clear dividing line between the big farmer, the smallholder and the farm-worker: they were generally all manorial tenants, subject to the jurisdiction of the manorial court, and the differences in the acreages of their holdings were only differences of degree, which altered from one generation to the next. In so far, therefore, as the modern smallholder is a farm-worker who has made good, the suspicions felt by the small man for the

big man, and *vice versa*, which undoubtedly exist, can be laid at the door of the Enclosures. But this is not the root of the matter. The Enclosures themselves were the product of the new capitalism which transformed every nineteenth-century industry, and the individualism of "each for himself and the devil take the hindmost" had no room for co-operation in any shape or form. Two eighteenth-century advocates of enclosure explained that "it gives the farmer the liberty to manage his land in such way as he finds most convenient, without paying any regard to what may be the practice of his neighbour", and described this as "as material a consideration as any".¹ As long as this point of view represented the attitude of the majority of the farming community, co-operation remained a precarious adventure. A farmer might be convinced in his head of the advantages of bulk marketing, for example, but until this intellectual assent was reinforced by a reorientation of his whole philosophy of life, his adherence would remain lukewarm. It was the absence of a tradition of village solidarity, the loyalty of neighbour to neighbour, that was the fundamental cause of the failure of English co-operation. In many of the European countries agricultural co-operation has been associated with a resurgent nationalism, as in Denmark, or an independence movement, as in Czechoslovakia and Ireland. In comparison with these countries our co-operation was a drab affair, making its appeal in pounds, shillings and pence, instead of in flags and anthems and the profound, if primitive, passions that flags and anthems symbolize. The Labour Party missed a great opportunity in neglecting agricultural co-operation. Socialism, suitably translated, might well have become the motive force—the *religion*, as it were—of a communal agriculture in this country comparable to that in the new Jewish colonies in Palestine.

War-time Innovations.—The war has finally discredited the legend that British farmers will never in any circumstances work together. Given the opportunity and the motive, farmers, it appears, are as prepared to co-operate with one another as any other body of citizens. The District Committees of the W.A.E.C.'s, for example, have been the Minister's maids-of-all-work. Although they have varied in efficiency from county to county, and even from district to district, by and large these Committees have done a very good job, and to them is due most of the credit for the actual day-to-day carrying out of the food-production campaign. These Committees have consisted almost entirely of working farmers. Another war-time development has been the Farmers'

¹ W. James and J. Malcolm, *General View of the Agriculture of the County of Buckingham*, 1794, p. 25.

Discussion Group, which, under one name or another—Growmore Club, Ingle Nook, etc.—has demonstrated that farmers are really anxious to get together and discuss agricultural problems. The Groups come and go, and exact statistics of their distribution and number are hard to come by. At the end of 1944 there were said to be over 1,000 groups in England and Wales, and in most counties some forty or fifty local Discussion Groups are now in being. Generally the speaker is a prominent farmer either from another part of the county or from a neighbouring county, though W.A.E.C. officials and members of the Research Stations are also often used. Meetings are generally held in the local inn or the chairman's house, and fifteen to fifty farmers will turn up to listen to half an hour's talk and join in the long and animated discussions that generally follow. The pious hope is often expressed that these meetings will provide farmers with the technical information in which many of them are so sadly deficient. The W.A.E.C. Technical Development Committees foster the Groups and supply qualified speakers, who do their best to instruct and educate. But it is very difficult to believe that the average farmer comes away from these meetings much wiser than he went in. Notes are hardly ever taken, and few of the lectures interlock into a continuous course. It is clear that the main function of the Discussion Groups is a social one. The farmers come to these meetings in order to enjoy themselves. They have heard of old Ben So-and-so from the north of the county, and they want to see him and weigh him up with their own eyes. It is lonely on the farm, and they want to rub shoulders with some fellow human beings. There is nobody to talk to, nobody to argue with, nobody to pour out your troubles to. And so, ever since early in the war, they have turned out in their thousands to these village meetings. It is a most significant development, though the significance has been misinterpreted. The Discussion Groups' success provides no evidence of the average farmer's appetite for technical knowledge, but it does suggest that the old individualism is nearly dead. Farmers are now liking coming together to talk about farming. It is only one stage from this for farmers to want to come together to farm together.

Parish Machinery Pools.—This further stage has already been reached in ten counties, where approximately 100 "machinery pools" or "mutual-aid groups" were operating in 1944. The Pools sprang up more or less independently, though generally with some W.A.E.C. encouragement, in 1942 and 1943, as a result of the shortage of machinery in the grassland areas, where large acreages were being ploughed up. There were not enough contractors' machines or W.A.E.C. machines to get all the work

done, and all that the Pools did, essentially, was to systematize and put on a business footing the natural tendency for the man who was over-equipped for his own arable acreage to help out his under-equipped neighbour. Standard rates were fixed by the Pool Committees, and the collection of the debt and the payment of the farmer were taken over by the Pool Secretary. In many counties the Pools have charged a commission of 5% for these services, partly to pay current expenses and partly as an insurance against bad debts, and this commission has enabled some of them to buy their own implements.

The pools have now largely outlived their original function. With the stabilization of the arable acreage and the gradual approach to saturation point in the supply of tractors and implements, the problems of the over-equipped and the under-equipped farms have largely solved themselves. Contractors and the W.A.E.C.'s are more able to give the small-acreage man all the assistance he requires, and most of the larger farms have become virtually self-sufficient, except for specialist equipment, such as grain-dryers and drainage machinery. Most of the work that now passes through the Pool Secretary's hands is done by contractors or the W.A.E.C. Contractors prefer to be relieved of the odium and uncertainty of collecting their debts, even though they lose 5% by it, and the W.A.E.C. find an efficient secretary a useful local agent who will see that the right machines go to the right farms in the right order, and deal with crises and complaints. The Pools which have purchased implements out of their reserves, or obtained them on long-term hire from the W.A.E.C., are now finding the question of maintenance a difficulty. The combine drill is not cleaned after one of the members has used it; the disc harrow is not greased; implements are left on the village green and the children break them. The problem of ownership is also becoming acute. The Pools have no legal status, and not only cannot own implements, but cannot even prosecute a member for non-payment.

It is apparent that Pools are now developing in two directions. On the one hand, in fact if not in name, they are becoming more and more an accepted part of the W.A.E.C. organization. A Pool normally covers one large or two small parishes with a total of thirty to fifty farmers, and so provides a convenient subdivision of the W.A.E.C. District. A Pool meeting can be turned into a technical lecture, or an exposition of official policy, or a means of ascertaining the order in which the various farms should have their corn threshed. And the Pool secretary has a thousand uses. This line of development is discussed more fully in Chapter VIII ("The Democratization of Control"), and need only be mentioned here.

The Pools are also developing into full-blown producers' co-operatives. A number are registering under the Industrial and Provident Societies Acts, generally using a modification of the model rules prepared by the National Farmers' Union. Gradually they are feeling their way into the bulk purchase of requisites, the employment of Pool labour, the purchase of a premium bull and similar developments, as well as in extending the scope of their machinery activities. Registration exempts the Pools from income tax and makes it easier for them to obtain overdrafts with the banks or to use the W.A.E.C. Goods and Services Scheme. This means that the Pools can now embark upon the big expensive machinery that only a large farm can afford and that justifies its own labour. Such implements as drills, rollers and harrows are not really suitable for Pools, unless the Pool is to set up its own contracting service. As long as they are simply hired out to members, human nature is certain to assert itself, and they will not be treated as carefully as the farmer's own tackle.

Future of Producers' Co-operation.—The essential function of agricultural co-operation has been excellently defined by C. R. Fay:—

"The special rôle of co-operation is to place the family farm using up-to-date methods of production on a level with the industrial company in respect of its commercial and financial activities. It can no longer be thought of as a device for supplying the small farmer with services which, if he were a large farmer, could be as well supplied by the ordinary channels of trade. It helps the small farmer proportionately more than the large, but it tackles only the fringe of its problem if it stops short at the little man. The central task to-day is the stabilization of the mechanized family farm; and in this task it stands between the isolation of the family unit and the collective system of Soviet Russia."¹

What, then, are the implications of the mechanization of the family farm? How can we speed up the process? If we decide to subsidize Parish Pools, is there not a danger of our artificially preserving a radically inefficient unit? What element of outside control can be introduced without destroying the Pool's vitality and local initiative? Are Pools and private contractors fundamentally incompatible? Is there a post-war place for the County Committees' Machinery Departments?

These are some of the questions with which we shall be faced in the very near future. It is necessary for Socialists to devote

¹ C. R. Fay, *Co-operation at Home and Abroad*, vol. ii (1939), p. 277.

to them a great deal more thought than they have hitherto received. The success of a Socialist agricultural policy in this country will hinge far more on their successful solution than on nationalization. And yet the word "co-operation" is not mentioned once in the Labour Party's official statement of its agricultural policy.

The technical problem was discussed by D. B. Johnstone-Wallace in an address on "Mechanization of the Family Farm" in January 1944.¹ To be fully equipped a 100-acre arable-dairy farm now requires a medium-powered tractor, a power-lift toolbar with hoes and cultivator tines, a direct-attached mower for the tractor, a two-furrow plough with general purpose and digger bodies, a spike-tooth harrow, a Cambridge roller, a fertilizer distributor, a combine grain-drill also adapted for root crops, a power-drive binder, a combined swath-turner and side delivery rake, a horse rake, a tractor sweep, two pneumatic-tyred carts, two low-loading dumping trailers, a steam sterilizer, a milk-cooler, and various small tools. These are all more or less essential. In addition, it would be helpful to have a milking machine, a 5-7½ h.p. electric motor or portable engine, an electric refrigerating plant for cooling and storing milk, a double-disc harrow, a flexible grass harrow, a farmyard manure-loader, a green-crop and hay loader, an elevator, a grass seed-drill, a hammer mill, a silage cutter, and perhaps a motor dumping-truck. It was the items on this second list that led Johnstone-Wallace to conclude that "Cost might make mechanization on this scale impossible on most family farms, and the only satisfactory solution other than increasing the size of the farm was to make use of contractors' machinery or to establish co-operative machinery pools to make available machines which are not likely to be needed by all farmers at the same time".

The final proviso is an important one. Purely seasonal implements cannot serve more than four or five farms. This also applies to milking machines. On the other hand, for operations with a relatively long season, such as silage-making and manure-distributing, a single machine might very well serve a whole parish. There are also some virtually non-seasonal operations in the same category, such as drainage, land-clearance, subsoiling, special deep cultivations, etc. Although Parish Pools should be able to provide implements for very small groups of farmers, their main function will clearly be to own and operate the large non-seasonal, or long-seasonal, machines. As compared with a contractor, a Pool will generally, no doubt, be cheaper, but the main advantage is that a Pool will be able to go first and to

¹ Reported in full in *The Farmers' Weekly*, January 28, 1944.

devote most time to the farm that needs attention most, whereas a contractor naturally gives the preference to the best payer. A Pool will put the parish first. At least there will always be the stimulus of local pride to push parish production to a maximum, even though the claims of pounds, shillings and pence may occasionally override such considerations.

This tendency to subordinate self-interest to the general good of the parish will need directing and encouraging. Public spirit is a sensitive plant, to be welcomed and protected wherever it is found. The Pool committees and secretaries have had plenty of publicity and applause, but very little solid assistance. The time is now ripe for the case for a State grant to registered Pools to be considered by the Ministry of Agriculture.

The forthcoming dispersal of W.A.E.C. agricultural machinery will provide the opportunity for equipping the Pools cheaply. Any additional plant or implements required by Pools should be eligible for a 50% grant. The determination of the types of machinery and the kind of activities it is intended Pools should take up will need careful consideration. The immediate objective should be to concentrate in Pools the machinery and implements that would be uneconomic on farms approaching the lower limit of acreage required for the efficient working of their particular farming system. No attempt should be made to help out farms below the efficiency acreage with Pool ploughs, drills, etc. The very small farm is generally an obsolete survival from the pre-mechanized world, to which it would be unwise to afford artificial protection. These farms can safely be left to the private contractor. The 50% grant should not therefore apply to standard implements, such as light harrows, which every farm can reasonably be expected to provide for itself. The Pool must not compete with the individual farmer. On the contrary, its activities should begin where his normal operations end. Pool and average-sized farm should *complement* each other, the two in combination resulting in a range of efficiency only obtainable at present on the largest farms or contracting businesses.

Finally, some State supervision of the Pools will be necessary. It is unfortunately true that in this country producers' co-operatives cannot be trusted to work out their own salvation. For one that succeeds, nine will fall by the wayside. The question is only what form this inevitable State control shall take. Possibly the best thing will be to register a County Co-operative Society ("The Blankshire Farmers' Parish Pools, Ltd."), of which the separate Parish Pools will be more or less autonomous branches. The Registrar of Friendly Societies requires a Society's accounts to be audited and published annually, and this provision would

ensure that the County Society was familiar with the financial status of its branches. Liaison with the County Agricultural Executive Committee could be arranged by inviting the Society's Management Committee to form the nucleus of a C.A.E.C. Pools Sub-Committee.

These are details that will have to be solved as they arise. It is impossible to predict the precise future of the British machinery Pool movement. It is certain, however, that this movement, or some near relation to it, provides the only way out from the *impasse* of the small farm that is politically possible. (The alternative of expropriation and amalgamation into large holdings is not practical politics and would be very undesirable on social grounds.) On a small scale it has already justified itself triumphantly. The technicians of the National Institute of Agricultural Engineering are enthusiastic about its possibilities. Around it can be assembled a number of other co-operative ventures, such as packing-stations and the organization of a service of relief milkers so as to ensure a 5½-day working week on every farm. And its development will mean the application to agriculture of the democratic Socialism that is perhaps England's most precious contribution to the civilization of the world.

CHAPTER SEVEN

THE FARM-WORKER

By J. B. BUTLER

(Department of Agricultural Economics, King's College, Newcastle-upon-Tyne)

WHATEVER MAY be the future of British farming, it is unlikely that this country will ever become a nation of small peasant proprietors. The farm-worker will remain an essential part of the rural community under any form of organization which we can foresee, and a consideration of his needs is essential to any discussion of agricultural planning. The prosperity of the worker, however, is bound up with that of the industry as a whole, and it is difficult to review his position and prospects without bringing into the discussion all the wider issues with which this book deals. Moreover, some of the most fundamental needs of the farm-worker are outside the scope of purely agricultural planning: for example, the provision of adequate education is essential to any attempt to give workers a full share of responsibility in

their industry, but this is a subject which is beyond the scope of the present chapter.

Mr. Bernard Shaw once summed up the social question by pointing out that what is wrong with the poor is their poverty, and there can be no doubt that the most fundamental need of the farm-worker is for a higher standard of living. It is a mistake, however, to suppose that the provision of a higher real income is the only step we need to take, and before considering this aspect of the question it will be well to examine some of the other ways in which the countryman's lot can be improved.

Conditions of employment on farm work are inferior to those in most other industries. The hours of work are long and generally irregular, the normal week being from fifty to fifty-four hours in summer and usually forty-eight or fifty hours in winter. In several counties a fifty-four-hour week is worked all the year round. The care of livestock calls for a seven-day week on dairy and stock farms, and very long hours are worked in hay-time and harvest and in the root-hoeing and lifting seasons.

In addition to long and irregular hours, agricultural work is subject to marked seasonal fluctuations, and when work is slack there is little prospect of alternative employment. This does not necessarily mean that workers are actually unemployed, for farmers usually try to retain their regular hands during the slack periods and find odd jobs for them to do. It does mean, however, that the farm labour bill covers a certain amount of work which is not fully productive, and this inevitably affects costs, and therefore reduces wages. In the north, the practice of yearly or half-yearly hiring is still common. Although this secures regularity of employment, it is open to the objection that the worker and employer are bound to each other until the end of the hiring period, and a man who for any reason is not hired at the usual time finds it difficult to get a job, and almost impossible to find a cottage.

Disputes about wages have been largely avoided by the fixing of minimum rates, but it is certain that in peace-time the scales were not always strictly observed. Although the minimum rate may have been paid, it was not uncommon for special arrangements to be made for overtime. The practice of working overtime on Saturdays and Sundays in return for a free cottage was not uncommon, and stockmen frequently put in longer hours than were covered by the special rates of pay they received.

Such jobs as hoeing, beet and potato harvesting, hedging, etc., are frequently let at piece-work rates. These piece-work earnings are relied upon to supplement the inadequate weekly wage, and this tends to encourage over-work at these periods. This

affects not only the worker himself, but also his wife and family. It is common for small children to spend the evenings in the fields helping their fathers at such times.

Another matter of importance relating to conditions of work is the employment of women on farms. Post-war policy is likely to encourage potatoes, vegetables and market-garden crops and the production of milk rather than beef, so that the employment of women may tend to increase. As long as conditions of labour are satisfactory there is no reason why women should not work on the land. The employment of married women, however, is open to the grave objection that it may prevent them from looking after their homes properly. Not only does this frequently result in neglect of the children, but it may also mean that the whole family is inadequately fed at the busiest season of the year, when they are all working hard. The competition of women may also tend to reduce piece-work rates, and even affect regular wages. On the other hand, the employment of girls on suitable jobs may be preferable to their undertaking factory work or domestic service. Proper organization and supervision are necessary to prevent exploitation, and the Trade Unions should be able to undertake this.

Improvement in the conditions of employment presents a difficult problem. The extension of unemployment insurance to agriculture and the introduction of holidays with pay have helped, and some experiments have been made in the provision of alternative employment in slack periods. The extended use of machinery has also eased the burden somewhat, not only by expediting and lightening work at busy seasons, but also (as in the case of milking machines) by reducing the man-power required for routine tasks and making it easier to release men for regular time off. These developments point to the desirability of farm units large enough to permit of a properly organized shift system which would permit all workers to have regular free time and adequate holidays. But it will never be possible to confine farm work to regular hours, like those of the factory.

The cure for the evils associated with the tendency to overwork in order to maintain earnings is the establishment of a living wage, consideration of which is deferred until later in this chapter. Failure to observe wage regulations is largely a question of adequate inspection, but much can be done by Trade Union action, and an extension of Union membership is much to be desired. Membership of the Unions tends to increase as the status of the workers improves, and we should aim at the ideal of universal Union membership. If that is achieved it will be necessary for the Unions to extend their activities beyond the

somewhat narrowly defensive one which is usual at present. Every district should have, in its Trade Union, a local Council of Workers ready to co-operate, as a corporate body, with farmers, local authorities or the Government on any matters affecting the common welfare. Such a body, representative of the workers, would be able to exert a valuable influence in local affairs.

The provision of suitable light industries, particularly those connected with agriculture, in rural areas would be of value not only to agricultural workers themselves, when farm work was slack, but also to members of their families. They would offer an alternative to domestic service to the daughters and an opportunity of employment near home to boys with little taste for farm work. The organization of such industries would not be easy, and it is unlikely that they could be provided by private enterprise; for the need, if they were to serve their purpose, of employing numbers of part-time workers of varying grades of skill would reduce the capacity to earn maximum profits. The importance of increasing the earning power of rural families is, however, the overriding factor and, provided the industries can be made economically self-supporting and can contribute to the improvement of the productive capacity of the workers, they need not be condemned merely on the grounds that they could be conducted at a greater profit elsewhere. The precise nature of the ancillary industry most suited to each locality is a matter for experiment. Food-processing offers obvious possibilities. In addition to the ordinary canning factory, there is now dehydration. The provision of electric power may make possible the development of small village, or even family centres equipped with the necessary tools for making small components which may perhaps be sent elsewhere for assembly, or, alternatively, the assembly of previously manufactured parts may be found more suitable. Whatever system proves possible, an effort should be made to retain as great an element of manual skill and craftsmanship as possible, and to discourage anything resembling ordinary factory mass-production methods.

The provision of such industries might have several secondary advantages. They would maintain a larger rural population, and so make social betterment easier; they would retain in the villages the seasonal labour needed for such crops as potatoes and other vegetables; and finally, by increasing the demand for electric power, they would make it economically possible to provide supply lines to rural areas and farms which cannot now be electrified at a reasonable cost.

These are some of the ways in which conditions of work might

be improved; but the whole problem of long hours, lack of holidays and other drawbacks of farm work can be approached from another angle. A large part of the trouble arises from the fact that the worker has no personal interest in the farm on which he works. Farming is an exacting occupation, for the small farmer no less than the worker, but it is sufficiently interesting to fill a man's life, provided he has a stake in the farm and is not merely a hired labourer. Many farmers are content to devote all their time and energies to their farms, and they are not for that reason regarded as objects of pity. Given real co-operation and an objective, workers would generally be glad to do the same. This raises the question of the practicability of schemes of co-operation and profit-sharing, which must be deferred for the moment, but is dealt with later in this chapter.

It is not proposed to discuss in detail the improvements in general social conditions which could be brought about by vigorous State planning. The need for better housing, water supplies and drainage is well known, and the provision of adequate medical services, social security and education has been made the subject of Government action. In particular, the need of better education is fundamental to any real change in rural conditions, since the growth of co-operation between workers and the development of a broader outlook on farming problems on the part of both farmers and their men are essential to any attempt to improve conditions. An atmosphere of suspicion and distrust is fatal to the growth of the spirit of mutual help without which legislation alone can achieve little.

A word must be said about the tied cottage. This system is bad both for farmer and worker, for not only does it restrict the worker's freedom to leave an unsatisfactory employer, but it makes it difficult for a farmer whose farm is ill equipped with cottages to obtain adequate labour. The only merit of the tied cottage is that it has operated as a hidden subsidy to wages. The housing shortage has raised rents in most rural areas and, unsatisfactory as these cottages frequently are, their rents, being controlled, are far below those charged for Council houses, and are generally less than the rents of other cottages available in the village. Even where Council houses are available, therefore, workers, with their low earnings, prefer to sacrifice comfort by living in tied cottages rather than pay the extra rent of a Council house. Unless wages can be made sufficient to cover the economic rent of a decent house, it may prove necessary to subsidize rural housing so that public authorities can let cottages to farm-workers at rents comparable with those now paid for tied cottages. Two avenues of advancement are open to the farm-worker.

He may save enough capital and take a farm, or he may obtain a better-paid job as foreman or farm manager. Deficient education is usually a grave obstacle to the latter course and, with rare exceptions, will debar him entirely from obtaining any post requiring technical, as opposed to practical, qualifications. Rural schools are frequently so unattractive at present that boys view with dismay any proposals for raising the school-leaving age. Their one desire is to leave school and start work. Farm work is congenial to most country boys, the majority of whom are also aware that their earnings are badly needed at home to help balance the family budget. Once they start work, the long hours and tiring nature of the work make any part-time study difficult, even if facilities existed in the villages, which, as a rule, they do not. Consequently technical training is almost unobtainable—though in some areas the Rural Community Councils have done something to provide instruction in horse-shoeing, welding and farm carpentry—and although a man with good practical knowledge of his job may become a foreman if he has the right qualities of character, he can rarely advance beyond that stage. All the better-paid administrative and technical posts are reserved for college-trained men. The farm-worker is also subject to competition from farmers' sons, many of whom, lacking the capital to take farms, apply for jobs as managers and bailiffs. Their slightly superior social status and greater experience of management give them a distinct advantage over the farm-worker in the eyes of many employers.

A few farm-workers have, by means of scholarships, obtained technical qualifications, and some have risen to positions of considerable importance. Those with whom the question has been discussed have all emphasized the handicap they suffered from lack of general education, which made subsequent technical and scientific study extremely difficult.

The solution of the problem outlined above is generally a matter of improved education. It is therefore beyond the scope of this essay to make detailed proposals. Better rural schools, more scholarships and the establishment of rural colleges on the lines initiated by the Danish High Schools and successfully adopted in Cambridgeshire and elsewhere, are obvious steps to be taken. If wages cannot be raised sufficiently to make workers' families independent of the children's earnings, then maintenance grants must be paid where necessary. More scope for the part-time technical training of men already working on farms is also needed.

The difficulties which confront a farm-worker who wishes to establish himself as a farmer are even greater than those facing a

man who wants to improve his technical qualifications, the chief problem being to find the necessary capital. It is almost impossible for a farm-worker to save sufficient out of his wages to enable him to set up in a farm. Even if he succeeds in doing so, it will probably take him so long that he will no longer have the energy and youth which are necessary for success.

The difficulty is aggravated by the lack of small farms at reasonable rents. The demand for such farms is, of course, due to the fact that the number of men with the small amount of capital sufficient for a small farm is much greater than the number possessing the larger amount required for a big farm. Elderly farmers are also frequently in the market for small places to which they can retire. Despite all the activities of County Council Smallholdings Committees, the supply of small farms is, therefore, not equal to the demand.

Before recommending that steps should be taken to increase the number of smallholdings in order to meet the demand, we have to consider whether such a course is really justified. A small farm is economically less efficient than a larger unit, and small farmers usually have to work hard for very long hours in order to make ends meet. As a class, too, they tend to be somewhat conservative and resistant to change, so that any considerable extension of the number of smallholdings might render social and economic development of the countryside more difficult. Nevertheless, it is probable that some extension of smallholdings would be possible and desirable. It would cater for those men whose native independence makes them happy only when they are their own masters, and would provide scope for specialists in such branches as market-gardening, poultry-keeping, etc. Even though the smallholder may be financially worse off than a hired labourer working on an efficiently organized farm, yet this is outweighed in the eyes of many farm-workers by the advantages of independence and freedom from control.

If smallholdings are to compete on equal terms with larger farms and provide a better standard of living for those working on them, then some form of co-operative organization seems essential. In this connection the experimental work carried out by the Land Settlement Association is of interest. The grouping of holdings and the centralization of buying and selling and of equipment for cultivations have obvious advantages, and it is along these lines that smallholding schemes should be developed.

Such schemes are liable to dangers. These arise partly from the fact that, where they operate on public funds, there is a tendency to develop an elaborate system of checks and safeguards, so that not only is the efficiency of the organization endangered,

but the settler himself may lose much of the freedom which it is the purpose of the scheme to encourage. If such drawbacks as this can be overcome, the establishment of groups of small-holdings in suitable areas, organized on co-operative lines, is an experiment well worth trying. Co-operative farms on the lines of those set up by the Welsh Land Settlement Society are also worth extended trial. But the difficulty of all such ventures in co-operation is the personal factor, and until this can be modified by education—not only in schools, but in the widest sense of the term—progress must be slow. Indeed, such schemes are themselves a part of the education needful for their own success.

The scope for land settlement is necessarily limited, and the bulk of farm workers will remain hired labourers, and not small-scale farmers. It is important, therefore, to consider how far the workers can be given a greater interest in and responsibility for the industry in which they work. Writers on rural subjects are fond of saying that the land is a "sacred trust". We must consider, therefore, whether this trusteeship cannot be extended to the worker as well as the landowner and the farmer. This suggests the need for some means whereby the workers on a farm can participate in the management or share in the profits. Such schemes have been tried in the past without success, and are unpopular with both employers and employed. Nevertheless, with a better educational background and with a basis of mutual goodwill in place of the philanthropic window-dressing which has too often prompted them in the past, there should be scope for a limited application of such schemes on the larger farms.

Anything savouring of farming by committee must be ruled out. Every practical man knows that in farming, as in every other business, success can be obtained only by appointing a competent manager with adequate powers to deal with the problems of day-to-day management and making him responsible for the results obtained. This does not mean, however, that there is no scope for a workers' committee on the larger farms. Such a body would be of value, if only for the ventilation of grievances, for putting forward suggestions and to enable the farmer or manager to explain to his men his policy and carry them with him in its execution.

As long as the farmer provides the farm capital and remains solely responsible for bearing any loss incurred, the workers' committee cannot well exceed a purely advisory function. If the workers wish to share in the profits of the enterprise or to have a vote in matters of farm policy, they must accept also a share in the risks of the business. It is upon this rock that many

schemes have suffered shipwreck; for the worker, with his meagre financial reserves, cannot be asked to forego his wages when profits are insufficient to pay them. For this reason neither profit-sharing nor workers' control is likely to become common in existing circumstances. But the possibilities of co-operative farming schemes should be explored as an alternative to land settlement in circumstances where sympathetic guidance and help would be available. If this were done on State-owned farms under the direct control of the County Agricultural Executive Committee, the necessary assistance could be provided, and the difficulty of paying the worker a living wage when profits were low could be overcome by a guarantee from the State of a minimum income. This would simply mean that, if the profits were insufficient to pay a normal wage, the worker, instead of being sacked and transferred to unemployment benefit, would continue in his job and would receive a subsistence allowance. It may well be that the majority of workers do not desire financial or managerial responsibility, but nevertheless those who have the capacity for it should be encouraged, for it is a valuable training in citizenship, and would help the worker to assume his proper place in rural life.

If the measures suggested above were all put into operation they would effect a material improvement in the farm-worker's position. Nevertheless they leave untouched the central problem of deficiency of basic income in relation to needs.

Immediately before the war the average agricultural wage was below 35s. The majority of counties had minimum wage rates varying from 34s. to 36s., but thirteen districts were below 34s., and only six were 36s. or more. Under the Agricultural Wages (Regulation) Act 1940 a national minimum came into force. This national minimum was 48s. from July 1, 1940, and was raised to 60s. in 1941 and then by two instalments to 70s. The district rates are sometimes higher than the national minima, and the actual earnings of the workers are increased by the additional payments made for overtime and for special duties connected with the care of stock. Owing to the present scarcity of labour, employers are often willing to engage workers at wages in excess of the minimum. It must be remembered that the rise in farm wages is a symptom of the general inflationary movement of all wages and prices during the war years, and does not indicate a corresponding net increase in real income. Nevertheless, with food costs controlled at well below the general price level for other commodities, the farm-worker is enjoying a higher standard of living in war-time than ever before. Whether, even now, the standard is adequate cannot be determined in the absence of

details of the cost of living of farm-workers' families in war-time.¹ It is, however, worth while to consider briefly the data on this point which were collected before the war. The available information is contained in the Ministry of Labour's Cost-of-Living Investigation of 1937,² in an analysis by Phillips of budgets collected in Lincolnshire in 1937 by the N.U.A.W.³ and in a study made by the present writer of conditions in Shropshire in 1939.⁴

The general conclusions to be drawn from these investigations are all broadly similar, and indicate that, in spite of cheap rents, extremely low personal expenditure and the virtual elimination of all luxuries, the farm-worker before the war was perpetually on the border-line of actual want, and was able to avoid it, if there were children in the family, only when his earnings were supplemented by those of his wife or some other member of the family. The diets of the Shropshire families showed grave nutritional deficiencies, particularly among the children. Home-grown garden produce and cheap supplies of milk and potatoes are of some assistance in maintaining adequate diets; but there is little doubt that the importance of these items tends to be overrated. Many of the workers' wives are first-rate managers, but they are not food experts, and high-pressure advertising has spread the taste for tinned and processed foods from the cities to the country, with the result that the fullest use is rarely made even of such fresh foods as are available. Garden produce, too, has to be paid for, if not in cash, in toil, which to the farm-worker (unlike the townsman allotment-holder) does not form a pleasant change of occupation.

No industry can claim to be paying a living wage if its workers are forced to depend on overtime earnings, on the labour of members of the family and on food produced in their own leisure time to maintain their standard of living: yet this was the position of British agriculture before the war. The position is, of course, very much better now, but it cannot be assumed that war-time conditions will continue indefinitely.

After the War of 1914-18 the repeal of the Agriculture Act in 1921 led to a catastrophic fall in wages. The average weekly rate fell from 46s. 10d. in 1920-21 to 27s. 11d. in 1923, real income, in the latter year, comparing unfavourably with the

¹ Budgets of eleven workers' families are included in *Country Planning* (Agricultural Economics Research Institute, Oxford, 1944), but the information they contain is insufficient to provide a reliable guide to changes in the standards of living since the war.

² *Ministry of Labour Gazette*, January 1941.

³ *Welsh Journal of Agriculture*, Vol. XVI, 1940.

⁴ *The Farm Worker's Standard of Living*, Harper Adams Agricultural College, 1941.

1914 level. Even after the establishment of the Agricultural Wages Committees, improvement was extremely slow, the average rates being 30s. 7d. in 1933, 32s. 2d. in 1936 and 34s. 8d. in 1939.¹ Although cash wages rose, there was no appreciable change in real wages after 1933 until the introduction of the national minimum in 1940.

We can count upon a continuance of conditions of scarcity for some years after the war, but eventually it is inevitable that the value of real wages will tend to fall once more if no steps are taken to maintain them. It is essential, therefore, to consider what means are available for improving the economic position of the rural wage-earner. There are three ways in which such an improvement might be effected. By direct subsidy at the expense of other classes of the community, by giving the worker a larger share in the earnings of the industry, or by increasing output per man, so that the total earning capacity of agriculture is increased.

Direct subsidy should be resorted to only after other methods have failed. In certain cases it may be justifiable, but the possibilities of improvement by other means must be fully exploited before it is applied. If subsidies are to be given, they must be given not to farm-workers only, but to all classes of workers whose incomes fall below subsistence level.

A consideration of the earnings of the smaller farmers, especially those on marginal land, does not suggest that wages could be materially increased in normal times at the expense of the farmer, nor are the rents of agricultural land greatly in excess of the cost of maintaining the capital equipment. Under existing conditions the scope for redistribution is, therefore, limited. But if the land were in public control some reduction in interest rates and in overhead costs might enable rents to be reduced or, alternatively, capital improvements could be carried out which would increase efficiency without raising rents in proportion. Nationalization or State control of the distributive trade should also make it possible to reduce the margin between producers' prices of farm products and retail prices: this would provide a means of transferring to the farm-worker some of the prosperity enjoyed by the distributive trade, with a consequent levelling up of wage rates.

Whether or not some redistribution of incomes is possible in this way, it will be necessary to maintain machinery to ensure that the farm-worker gets his fair share of total farm earnings. If Trade Union development is sufficiently vigorous, the Unions

¹ *The Supply, Use, Costs and Remuneration of Labour in Agriculture*, Dept. of Agricultural Economics, University College of Wales, Aberystwyth.

will be able to take over this function; until then, the machinery of the Wage Boards and the national minimum must be retained.

There remains the possibility of increased output per man as the only really fundamental solution to the problem. It is clear that this can be achieved, either by increasing the output of the existing rural population or by maintaining output at the existing level and reducing the number of persons employed. There has in the past been a substantial reduction in the rural population in response to the pressure of a changing environment, and it may be that, with the development of mechanization, a further tendency in this direction will occur. Such process of adaptation will inevitably cause dislocation and distress, and may tend for a time to react unfavourably on wages. Before resigning ourselves to a falling agricultural population, therefore, we must consider the prospects of increasing the total output of farm products above its normal peace-time level. During the war output has been kept well above the pre-war level by the need to make up for our lost imports, and the aftermath of the destruction which has occurred is now a state of famine from which agricultural producers in non-devastated countries must benefit. But this phase will pass, and we must plan for the time when conditions return to something like normal.

In the earlier chapters of this book a "target" of a 50% increase, in terms of physical output, over the pre-war level of production has been suggested. Such an increase, it was argued in Chapter I, should make it possible to retain the existing labour force and pay a minimum wage of £4 10s. without raising prices. The assumption, in other words, was that output per man could be increased by 50%. It will be appropriate at this stage to come down to brass tacks. Is there, in fact, any real reason to believe that an increase of this magnitude could be attained in the near future? If there is, and we are not just guilty of wishful thinking, what steps could be taken to accelerate the process?

The example of New Zealand is distinctly encouraging. According to O. J. Beilby, in terms of pound sterling's worth of net output per worker in agriculture just before the war, output per man in New Zealand was more than twice what it was in this country. The average annual outputs per worker were £450 in New Zealand as against only £205 in Great Britain.¹ This comparison, however, is not really fair to the New Zealander, as it is based upon the prices paid to farmers in each country, and English prices were generally considerably higher than New

¹ "Comparative Labour Efficiency in Agriculture," *Empire Journal of Experimental Agriculture*, April 1941.

Zealand prices. Colin Clark has worked out productivity per head in international units—*i.e.*, the amount of goods and services which one dollar would purchase in U.S.A. over the average of the period 1925-34. According to this yardstick, which is a better test of comparative efficiency, the New Zealand worker averaged 2,444 international units per annum, as against the British worker's 475.¹ In other words, if these figures can be relied upon, one farmer or farm-worker in New Zealand was responsible for producing as much as five farmers or farm-workers in this country!

No one would suggest that this very remarkable difference in output per man in New Zealand and this country was entirely a matter of "efficiency". The climate of the North Island is a natural asset which higher rents and land values have not yet discounted. But, when all allowances have been made, it is clear that New Zealand has evolved a farming system which, whatever its other defects may be, is greatly superior to ours in terms of what the economists call P.M.H.—*i.e.*, production per man-hour. As milk is their major product, just as it is ours, it may be salutary to compare New Zealand methods of milk-production with the sort of thing that is to be found on the average English dairy-farm.

The outstanding difference is the degree to which the actual milking is mechanized in New Zealand. Over 80% of their herds are machine-milked, and in some areas the proportion is as high as 95% machine-milked. There are no official figures for this country, but as the number of milk-selling farms in England and Wales is over 150,000, and there were only 37,770 milking machines in Great Britain in 1944, the percentage of machine-milked herds cannot be much over 20%. A large number of our dairy-farmers have only started machine-milking since the war, and it is understandable that they and their men still have a lot to learn. (Short courses at the Farm Institutes in machine-milking are badly needed.) But even those who have used machines for many years seem much less economical with labour than the New Zealanders. The English average in ordinary machine-milked herds is about twenty cows per milker; in bail herds, where yields are generally lower and there is no "mucking out" to be done, it rises to thirty cows per milker. In New Zealand, however, according to an official investigation, the average of herds where "stripping" has been eliminated is as high as fifty cows per milker. Of course, few herds are as large as this either in this country or in New Zealand, but the ratio is significant. There is no doubt that the small size of the average English

¹ *The Conditions of Economic Progress*, 1940.

dairy-herd is a serious labour-wasting factor. Here, too, things are better in New Zealand. Whereas 52% of their producers have less than twenty-five cows in their herds, in Great Britain the same proportion—i.e., 52%—have less than thirteen cows each.¹ The average New Zealand herd is approximately twice as big as the average British herd. A. Bridges and A. M. Waite have recently shown that in English herds output per man per annum measured in gallons is 60% higher in herds of forty or more cows than in herds of less than twenty cows. As might be expected, their findings also show that output per man is higher in the high-yielding herds. Where there is a herd average of over 700 gallons per cow, the output per man is 46% higher than in herds averaging only 400–500 gallons per cow.² It is well known that average yields in this country are not much over 500 gallons per cow, and the Ministry of Agriculture is now urging farmers to go all out for another 100 gallons a year. There is good reason to believe that this not very ambitious objective will be attained. But if it is, and the Bridges-Waite findings can be accepted as typical, output per man will automatically go up by nearly 20%. Professor H. D. Kay has said that average English yields could be raised to 700–750 gallons per cow per year “within a decade”.³ If they were—and the task is by no means insuperable—this by itself would be almost enough to reach our “target” of a 50% increase over pre-war output per man.

The preceding discussion has not been intended to exhaust the problem—or the possibilities of an increased output per man that machinery and technical progress have now made possible. It will have served its turn if it has shown that there is no need to be defeatist about the labour problem. The industry should be able to “carry” a weekly minimum of £4 10s. without the least difficulty. The implications, however, of a relatively high wage may be worth emphasizing. Many farmers do not realize the change in their relationship with their men that has been taking place during the last hundred years. In 1851 there were 1,232,576 male farm-workers in England and Wales, and 311,151 farmers and farmers’ sons. The present figures, as far as they can be ascertained, are 400,000 male farm-workers (excluding conscientious objectors and prisoners of war) and 400,000 farmers and farmers’ sons. The ratio used to be one farmer (including the sons with the fathers) to every four workers. Now there are

¹ See *Farmer's Weekly*, February 17, 1943, and *Farmer and Stock-Breeder*, March 9, 1943.

² “Output of Labour on Milk-producing Farms,” *Farm Economist*, July–December 1944.

³ “The Future of the Milk Industry,” *Journ. Royal Society of Arts*, June 12, 1942.

as many farmers as workers. The change means, essentially, that the farmer has become less of a manager and more of a manual worker. On the other hand, the farm-worker, just because there are fewer of him, has had to assume more responsibility. He has gone up in the world, and the farmer, in relation to him, has gone down. In other words, the old social gulf dividing master and man has become obsolete, and they are fast becoming colleagues, if not rivals. The economic trend, therefore, is to some form of profit-sharing and ultimately, no doubt, to partnership.

There is also the problem of the farm-worker's relations with the rest of the community. The problem is a moral one as well as an economic one, and its solution involves the transfer of a larger share of the national income into the pockets of the people who will use it to increase their consumption of primary food products. This transfer can be effected by taxation or by any of the other means developed during war-time for redistributing the national income, and would result in an immediate revival of agriculture, which would be the first step to real economic prosperity. Whether taxes designed to relieve poverty and establish prosperity will be paid as willingly as those levied for mutual destruction in war cannot be foreseen. Some progress is almost certain to be made in the right direction, and even a modest advance will be welcome; but, if the problem is tackled wholeheartedly, its effects will be far-reaching, not only upon agriculture, but also upon the whole economic life of the nation. We need not attempt to forecast in detail the steps which require to be taken to implement such a policy. They would be based upon the extension of methods which have proved effective in war-time, including meals for school children, British Restaurants, industrial canteens (including canteens for farm workers) and the provision of free or cheap supplies to priority classes of consumers. Such a policy would confer a two-fold benefit upon the farm-worker. Not only would it provide the conditions in which better wages would be possible, but it would enable him to share in the improvement of living standards which it would secure to all workers. Really adequate school meals and the provision of protective foods for mothers and babies, together with proper education in food values, would do more for the health of the present and future generations of farm-workers than even a substantial increase in wages. If such services were supplemented by the provision of adequate cottages, by State medical and pension services, and perhaps by some form of clothing club organised for the benefit of the members and not for the profit of clothiers, then the physical needs of rural families

would be largely met, and we could look forward with some confidence to the development of a healthy rural population. It would remain only to tackle in a really fundamental way the other side of rural life by the development of an educational system similarly based not on minimum, but on optimum standards.

CHAPTER EIGHT

THE DEMOCRATIZATION OF CONTROL

By F. W. BATESON

THIS CHAPTER deals with the execution of the national agricultural plan at the four levels, in descending order, of (i) the Ministry of Agriculture, (ii) the County Agricultural Executive Committees, (iii) the District Advisory Committees, (iv) the Parish Pool Consultative Committees. To a large extent our proposals under the first three of these heads do not amount to much more than tidying up and democratizing the present war-time set-up. With the Parish Committees, which have already been discussed in the chapter on Co-operation in Agriculture, if from another aspect, we are putting forward something new, though it is based on a number of promising experiments recently initiated by various War Agricultural Executive Committees. This is a matter on which we lay the greatest possible emphasis. A Socialist agriculture must have a solid democratic basis. Farmers already have the feeling that they are "more planned against than planning". Instead of these dispirited victims of the farmers of Whitehall, we must encourage the rising generation of farmers and farm-workers to take the local initiative into their own hands. And the first thing is to provide the machinery to make this possible.

(i) *The Functions of Control*

In many farming circles the word "control"—often amplified to "bureaucratic control"—has an ominous ring. Control is thought to mean restriction, policing, the issuing of orders enforced by prosecutions; and this negative control ("finding out what the farmer is doing and telling him not to") is only accepted in such circles because it is recognized to be the inevitable concomitant of guaranteed prices.¹ This conception of control as a

¹ "The corollary to price stability is control. This is fundamental; for in the absence of efficiency, the nation cannot be expected to guarantee the

wholly negative force, a sort of necessary evil, is natural among our old-style farmers, whose whole philosophy of life has been a defensive individualism. (After all, the motto of the National Farmers' Union is still "Defence, not Defiance".) But it makes sheer nonsense to-day. What the farmers call "control", the man in the street will call "the execution of the national agricultural plan by bodies and persons appointed by and responsible to the nation". Control is, indeed, the mainspring of the national plan. So far from being wholly negative, it is essentially positive, creative, liberating. Since 1939, control, as exemplified by the War Agricultural Executive Committees, has reclaimed thousands of acres, which had been lost to agriculture, and thousands of farmers, who had degenerated into dealers, processors, and part-time farmers. The new interest in technique, which is evidenced by the farmers' discussion groups and "Growmore Clubs", the crowded lectures, the variety trials and machinery experiments now being made by the farmers themselves on hundreds of their own farms, is also a product of control. In the competitive individualist agriculture of the nineteenth century control *was* a negative, restrictive, and often harmful influence. But today all the tendencies are towards a co-operative collectivist organization of production, of which control must be the very essence. There can be no hedging, and there need be no apology about this. In a Socialist economy, farmers, like everybody else, will be the servants of the State. Like any other master, the State can issue orders to its servants, reprimand them if the orders are not obeyed, and if necessary dismiss them. But under a democratic Socialism the master is chosen by the servants, and the general trend of the orders he is to give is decided by them, as are also the grounds on which they can be dismissed. Such a system, if it is properly designed and operated, is not so much a system of control as a system of self-control or self-government. The general outlines it should assume in the special case of British agriculture, and the safeguards and precautions it should embody, are the subject of this section.

(ii) *The Technical Problem*

The national agricultural plan will be enforced up to a point by the managed price-system described in an earlier chapter. But it would be dangerous and wasteful to rely wholly on the price-incentive. In skilful hands prices will "draw out" from the

farmer's livelihood" (*Report of Conservative Sub-Committee on Agriculture*, April 1943, p. 21). The N.F.U. *Report on Post-War Food Production Policy* (February 1943) admits that "the nation is entitled to demand of the industry that production and marketing shall be efficiently conducted" (p. 15).

producers whatever commodities the community requires, and in the appropriate quantities and qualities. But prices provide no guarantee that the commodities are produced in what is socially the most desirable way, or even (except over a very long term of years) in what is technically the most efficient way. It is obvious that Accredited Milk with high butter-fat and carotene percentages can be produced either by family labour working far into the night seven days a week, or by workers on a shift system of five and a half days per week. The milk tells no tales. It is socially neutral.

Less obvious is the relation of price to efficiency. Theoretically, when prices are reduced, it is the least efficient who go to the wall. But in farming it does not always work out that way. High farming, as Sir John Lawes used to say, is no remedy for low prices. In certain circumstances, as many farmers found out between the two wars, low farming is. There was a type of tenant-farmer who "robbed" a farm, cashing whatever fertility there was, and then passed on to another farm. Another type was the "ranching" farmer, who made no attempt to maintain hedges, ditches, buildings, etc., and so reduced his labour bill that he was able to show substantial profits. The law did its feeble best to protect landlords against this sort of thing, but the Agricultural Holdings Act was difficult to enforce.

The principle applies in almost every department of a farm. An increase in the guaranteed price for wheat, for example, accompanied by a decrease in the guaranteed price for barley will always ensure some increase in the acreage sown to wheat and some reduction in the barley acreage. But the acreage-changes, even in the case of crops like wheat and barley, that are virtually interchangeable on many soils, are very unlikely to be in the same proportion as the price-changes. One reason for this is that a national guaranteed price—*e.g.*, one that would double the average profit-margins on wheat—means something quite different, when translated into farming terms, in different parts of Great Britain. On light land a very attractive price for wheat tends to result in either (a) the inclusion of another white-straw crop in the rotation, or (b) a reduction in the acreage under leys or roots, or (c) the reclamation of marginal waste land—*i.e.*, a general cashing in of whatever fertility may be available irrespective of the future. On heavy land, on the other hand, good wheat prices are beneficial from every angle, because they encourage the ploughing up of permanent grass or long leys, and, in doing so, tend to correct their drainage and mineral deficiencies. And whereas on light land the change-over to an extended wheat acreage can be made almost overnight, on heavy land it may be a

matter of years before the complete adjustment can be made. By that time the light-land farmers will have exhausted whatever reserves of fertility their farms had, and will have been forced back to a wheat acreage smaller than they had before the price-change, so that the nett national gain may not be very great.¹

In the case of milk the result of price-changes is even more unpredictable. Paradoxically, the immediate effect of a lower price for milk might easily be to increase the gallonage sold, because many milk-producers have no alternative form of production to turn to, and can only hope to maintain their incomes, if milk prices fall, by selling still more milk. This could only be done either by getting their heifers into calf at an early age, or by retaining less milk for rearing calves, both practices which would ultimately result in fewer and lower-yielding cows, but possibly not for quite a number of years. On the other hand, an increase in the price of milk, though it would no doubt lead to some increase in sales, would also inflate the value of good dairy-cows, and so encourage the retention of rather more milk for calf-rearing.

It will be obvious that the guaranteed price, though an essential element in the national plan, needs to be supplemented and reinforced by other agencies. By itself the price-incentive tends to be a short-term stimulant, maximizing immediate production, if at all, only at the expense of the future. Similarly, a gradual process of price-reduction would no doubt in the long run squeeze out the high-cost producers, but the run might be a very long one indeed. As a promoter of technical efficiency, price is therefore unreliable. An equally serious objection to too entire a reliance on the guaranteed price as the prime mover in the execution of the national agricultural plan is that by itself price does nothing to promote the co-operation between farm-units that recent technical advances have made essential. Prices are the language of each farmer's private purse, and not the common ground on which a group of farmers can get together to help themselves and their fellow-countrymen.

Control is therefore necessary to supplement prices. It is in the nation's interest that the foodstuffs required under the national agricultural plan shall only be produced as cheaply as is consistent with the long-term welfare and efficiency of the industry. To ensure this the State must be empowered to send its representatives to every farm in the kingdom and, where neces-

¹ The 1932 Wheat Act resulted in a gradual expansion of the wheat acreage, largely at the expense of oats and barley, up to the 1935 harvest. The 1936 and 1937 harvests showed a much reduced wheat acreage, however, no doubt largely due to overcropping in the preceding years, especially on the lighter land.

sary, to redirect production from the lines to which too exclusive a devotion to prices had committed it. The problem is fourfold :

(i) To adjust the *quantities* of the various crops and livestock products obtainable in each area as a result of price incentives with the requirements of the national plan ;

(ii) To reinforce price incentives tending to affect a continuous improvement in the *quality* of all home-produced foodstuffs ;

(iii) To accelerate progressive reductions in the real cost of producing the national quotas resulting from price changes ;

(iv) To enforce this regimentation without forfeiting the goodwill and co-operation of the farmers.

It is clear that, with these functions, control cannot operate from a single centre, though major principles of policy will have to be decided centrally, and agents of the central authority will be needed throughout the country to ensure a measure of uniformity. The process of decentralization need not follow existing geographical boundaries, but, owing to the continual clashes and contacts with Local Government authorities, it will be convenient to adopt their county, rural district and parish areas.

(ii) Ministry of Agriculture

We are not concerned here with the Ministries of Agriculture and Food in their primary function of authors and propounders of the national agricultural plan. The international factors which the senior officials responsible for advising the Ministers need to take into account have already been discussed in Chapter II, as have the internal considerations that affect the formulation of the plan in Chapter IV. For the moment we can assume that a comprehensive plan has been worked out and the problem is simply one of ways and means of carrying it out. The distribution problem, which is essentially the concern of the Ministry of Food, is not dealt with in this volume. Here we are dealing with food-production problems only, and the Ministry primarily involved is therefore the Ministry of Agriculture. What under Socialism will be the function of the Ministry of Agriculture, viewed simply from the angle of the initial link in the chain of production?

The question can be answered with some confidence because since 1939 the organization of production in this country has in fact been conducted on a virtually Socialist basis. It is clear, from our war-time experiences, that the legal powers over producers which the Ministry obtained under the Defence Regulations, and most of which are being retained after the war, cannot be exercised by the Ministry itself. These powers are far better

delegated to the Ministry's local agents, the County Executive Committees. Local knowledge and local pressure are an essential cushion between the irresistible force of law and the immovable post of the obstinate independent producer. A remarkable tribute to the effectiveness of the cushion is that, in spite of the enormous powers vested in the Ministry by the Defence Regulations, the number of convictions against W.A.E.C. directions in England Wales and amounted to only 155 in 1940, 185 in 1941, 142 in 1942 and 111 in 1943—*i.e.*, an average of 148 convictions a year. What is needed is still greater delegation. Such survivals from the pre-war system as the licensing of bulls by the Ministry's Livestock Officers must be eliminated as unnecessary anomalies. The general principle which the war has established is that all contacts with the individual farmer should be made through the local Committees. The Ministry's function is to appoint, instruct, stimulate and co-ordinate the local Committees, if necessary to dismiss them and appoint others, but never to take the place of the Committees. Whenever this has been attempted, as, for example, in the attempted regrouping of holdings at Wootton Rivers, Wilts., in 1943, an atmosphere of suspicion and rebellion has at once been created.

Appointment, instruction, stimulation and co-ordination—how can these functions be most effectively fulfilled? What are the agencies through which they should operate? At present a network of officials connects, more or less loosely, the various Ministry Divisions with the separate County Committees, one official normally covering a number of counties. Highest in status, but wielding relatively little effective influence, are the Liaison Officers, who are the Minister's personal advisers; lower in the scale, but much more effective, are the Land Commissioners, who are rapidly becoming the Ministry's maids-of-all-work in the counties, often having only two or three counties to deal with. In between these there are a multitude of area "advisers", "inspectors", and what-not, who tend to be ghostly figures of little practical significance, though sometimes possessing a certain nuisance value. The essential reform is to appoint to each county one whole-time Liaison Officer to act as a universal intermediary between the county and the Ministry. The present system allows too much autonomy to the county, the Ministerial agents, as a result of their occasional and desultory appearances, not being able generally to exercise any effective check on local exuberances or perversities. Some regional grouping of the counties, based perhaps upon the Provinces of the Advisory Services, is probably desirable. There is no doubt that decentralization has gone too far, though this is possibly merely an incidental

effect of the rather poor type of Civil Servant that was being recruited for the Ministry before the war.

(iii) *County Executive Committees*

The most important of the agricultural decisions so far taken by the Labour Government, which were outlined by Mr. Tom Williams, the Minister of Agriculture, in November 1945, has been the permanent retention of the War Agricultural Executive Committees which were set up in each county in September 1939. There can be no doubt that, suitably strengthened and democratized, the W.A.E.C.s represent the best available instrument for carrying out a Socialist national agricultural plan. At present they are primarily the Ministry of Agriculture's local agents for increasing the output and efficiency of British agriculture. The Ministry directs, stimulates and co-ordinates the general food-production policy, but its actual operation is left entirely to the W.A.E.C.s (appointed by the Minister, but unpaid) and their staffs (paid by the Ministry). The Committees, however, in contradistinction to their officials, are not the mere servants of the Ministry. Within the general ambit of the national plan they are allowed considerable freedom to adapt and adjust it to local conditions, wherever they can show that such adjustments will lead to greater output and efficiency, but the last word always remains with the Ministry. As its agents, the County Committees have been responsible within their own boundaries for:

- (a) the fulfilment of the local quotas of the priority foods required by the national plan;
- (b) the supervision and/or eviction of inefficient farmers;
- (c) the supervision and/or dispossession of impoverished or unprogressive landlords;
- (d) the reclamation, re-equipment, farming or letting of land of which possession has been taken from such landlords;
- (e) the provision of expert technical advice;
- (f) the provision of seasonal and specialist labour or machinery;
- (g) the rationing of feeding-stuffs, fertilizers and other agricultural requisites at present in short supply;
- (h) the supply of credit to farmers through the Goods and Services Scheme.

It will be seen that this set-up, provided it functions with reasonable efficiency, covers fairly adequately the first three of the four requirements already laid down as the indispensable executive machinery of a national agricultural plan. The W.A.E.C.s are

already: (1) allocating to each area, but not always to each farm,¹ its quota of the crops, etc., to be produced, (2) improving the quality of some farm-products, notably milk, (3) securing some reduction in real costs by the encouragement of mechanization, the inculcation of higher technical standards by advisory visits and demonstrations, and the forcible elimination of the most inefficient producers and landlords. They have been less successful in meeting the fourth requirement—viz., of enforcing regimentation without forfeiting the goodwill and co-operation of the farmers. Indeed, it is probably true to say that the only counties where the Committees are popular with the farmers are those where there has been a minimum both of regimentation and of increased production. The most efficient W.A.E.C.s are respected by the better type of farmer, but are often anathema to the average run-of-the-road farmer.

Two safeguards have been suggested against the abuse by the Committees of their powers of control. One is to allow evicted tenant-farmers or dispossessed owner-occupiers or landlords the right of appeal, either through the processes of law or to a special tribunal to be appointed by the Minister of Agriculture. Although *Our Land*, the Labour Party's programme for post-war agriculture, did not specifically recommend this right of appeal being allowed, it has now been promised by the Government. We are decidedly of the opinion that the tribunals—several will be required to cover the whole kingdom—should be extra-legal and appointed directly by the Minister, though obviously it will be desirable for the chairmen to be persons with legal experience. The Rules of Good Husbandry and Good Estate Management must vary according to changing requirements of the national plan, and cannot be codified into legal precision. In effect the tribunals will have to decide whether in a particular case the County Committees have or have not exceeded the spirit of their instructions from the Ministry. This will be far better determined by a body specially appointed by the Minister than by a County Court Judge. Questionable findings by the tribunals can always be raised in the House of Commons.

The second safeguard that has been proposed is to allow the N.F.U., the N.U.A.W. (and perhaps in some areas the T. & G.W.U.), the C.L.A., or the Land Union and the County Councils to appoint one or more members to the Committees, although it is generally agreed that the chairmen and at least two members

¹ Field orders—i.e., directions to plough or crop in a particular way—have been much resented by farmers and are not really needed under peace conditions. The final sanction of dispossession will always be left if a farmer obstinately refuses to accept advice.

on each Committee should be selected and appointed by the Minister of Agriculture. At present all Executive Committee members, though not Sub-Committee or District Committee members, are appointed personally by the Minister, the chairmen being selected by him. There is much to be said for the Labour Party's compromise suggestions that the N.F.U. and the Agricultural Workers' Union "should be invited to nominate suitable names for the panel from which the committees are selected by the Minister", but it is clear that the final approval, together with the right of dismissal if a member becomes obstructive, must lie with the Minister. The Executive Committees exist to execute his national plan, and the first qualification for membership must be ability and willingness to do this. The proper place for the representation of the various sectional interests is on the advisory sub-committees (*e.g.*, the Unions on the Labour Sub-Committee, the County Council on the Technical Development Sub-Committee, the N.F.U. and C.L.A. on the cultivation Sub-Committee, etc.).

However, these and similar safeguards, such as the guarantee against financial loss rightly promised Committee members by the Labour Party, touch only the fringe of the problem. However watered down, the County Committees remain largely authoritarian bodies. In our view it is better not to water them down, but to concentrate on the provision of a really efficient executive machine; allowing the democratic check to operate through reconstituted District Advisory Committees.

(iv) *District Advisory Committees*

These Committees are at present miniature Executive Committees. Generally there is one to each Rural District Council area, and they number from six to thirteen per county. The chairmen are always supposed to be selected by the Executive Committees, the other members being either selected by the chairman, generally in consultation with the Executive Committee, or co-opted by the existing members. At the moment, when District Committees are breaking away more and more from Executive leading-strings, the latter appears to be becoming the more usual practice. The majority of Counties are now drastically decentralized, and although in law the Executive Committees cannot delegate their powers under the Defence of the Realm Regulations, in fact they have done so as to the District Committees to a considerable extent. Ploughing orders, for example, though nominally merely a District Committee's recommendation, are very seldom challenged by the Executive Committee, which issues the actual official direction. In such cases—

and they are very numerous now—Executive Committees are mere rubber stamps for the District Committees' decisions.

It has become clear that the District Committees are an essential part of the efficient carrying-out of the national agricultural plan, and that they will have to remain in being, either in their existing form or reconstituted after the war. The case for reconstituted District Committees is briefly this:—

(i) 90% of the District Committee members are large farmers, often relations or old friends, and there is a tendency, especially as the habit of co-opting new members grows, for each Committee to become a self-perpetuating clique by no means representative of the real agricultural interests of the area;

(ii) to a large extent the existing District Committees are completely irresponsible; their function is to advise the Executive Committee on the agricultural problems of their district, but there is no organized body of persons that they must satisfy that the advice they give is the best in the circumstances. (So far as members have any local allegiance, it tends to be their N.F.U. Branch.)

(v) Parish Pool Consultative Committees

To Socialists much the most interesting and promising development of the war years has been the growth of parish machinery pools and farmers' discussion groups. This development is discussed in detail in Chapter VI of this book. Here it will be sufficient to say that with a little more encouragement from the Ministry, the County Committees and the N.F.U., there seems to be no reason why almost every large parish, or group of smaller parishes, should not form its own Pool, though the functions of each Pool will, of course, vary according to the proportion of large or small farmers included in its area and the types of farming practised. In some districts the co-operative purchase and working of farm machinery will be the main business of the Pools; in others the bulk purchase of feeding-stuffs, fertilizers, seeds, etc.; in others, again, the co-operative marketing of produce. Clearly, too, as in the parallel case of Parish Councils, there will be local differences in the energy and self-confidence of Pools. All Pools, however, whatever the scope and direction of their activities, may be expected to require a Committee, and these Committees should form an invaluable cog in the mechanism of control, not only electing the members of the District Committee—a general basis might be one District Committee member for every 5,000 acres of agricultural land—but also providing the funnel through which technical innovations, adjustments of farm

boundaries, major capital improvements, changes of tenancies, etc., could be introduced with the minimum friction.

The Pool Committees are generally elected at present by a show of hands at the annual general meeting of the Pool. In some areas farm-workers as well as farmers are members of the Pool, and there does not seem to be any valid reason why any resident with agricultural interests, such as a retired farmer or land agent, should not be co-opted on to the Committees. The actual right to vote might be limited to occupiers of agricultural land who make an Agricultural Return to the Ministry of Agriculture, and farm-workers who are returned by their employers on the same form. As copies of the Agricultural Returns are lodged with the County Committees, it would not be a complicated matter to settle who had or had not the right to vote. It is important that the Pool Committee members should be the democratically elected representatives of the parish's agriculture, and that there should be as little pressure as possible from the Executive Committee or its officials to exclude obnoxious candidates. One reason for this is that a genuinely democratic Pool Committee will provide (a) a healthy safety-valve for the farmers' constitutional grouses, and (b) a useful pointer for Executive Committees and the Minister to the exact places where the shoe of control is pinching. Committees of yes-men, anxious only to bask in the favour of authority, would not serve either purpose.

(vi) *Operation of Control*

We have seen that the executive machinery of Ministry, County Committees, District Committees and Pool Committees has the three main functions of: (i) allocating the national quotas of crops and livestock products, (ii) raising the general level of the producers' efficiency, (iii) winning the confidence and co-operation of the farming-community. It will not be necessary to say any more about (iii). The right of representation on the Executive Sub-Committees which we have conceded to all organized bodies with agricultural interests, the right of appeal against Executive Committee decisions, above all the institution of democratically elected District Advisory Committees and Parish Pool Consultative Committees, should meet this point. On (i) and (ii), however, something more must be said. It is clear, for example, that the fumbling hit-or-miss methods of the war-time quotas must be avoided. What is needed is a competent statistical service, so that if, for example, a larger potato crop is required, the acreage quotas are highest in the areas with the soils, experience and implements for large-scale potato-growing. A national and county statistical service will also be required to provide a con-

tinuous check on the progressive improvements in production efficiency. The system of evaluating production per acre, which has been worked out by the Hants. W.A.E.C., provides a simple and reliable guide to yearly increases in production on ordinary non-specialist farms.¹ This only measures quantities (weights of products sold compared with optimum yields per acre of the same products minus feeding-stuffs purchased), which need correction by profits (the sphere of the advisory economist) and qualities (this is where chemists, bacteriologists and dieticians come in). But a steady increase in the quantity of food produced per acre, per man and per £100 capital—*i.e.*, a continuously increasing ratio of output to input—must be the main requirement of post-war British agriculture. The Hants formula, used in conjunction with the farmers' official returns and information already supplied to the W.A.E.C.s by the Milk Marketing Board, the various threshing contractors, the brewers (for wet brewers' grains), etc., shows up at once the poor and indifferent producers, often supplementing and correcting the District Committees' gradings of A, B and C farmers. The machinery of control is then able to concentrate on these low-grade producers and, by moral pressure and advice, backed up if necessary by orders, and possibly even by ejection, eventually secure the increased production that it is reasonable to expect. The details of procedure will vary from case to case. As an illustration let us take an elderly farmer, the brother of one of the District Committee members, who has always been graded B+, but whose production per man and per acre is now reported to be only 55%. The Executive Committee will ask the District Committee for a report, and the District Member for the particular parish and his District Officer will discuss the case with the Parish Pool Committee. "Yes, the farm is going back. The farmer is getting too old." The District Member reports the Pool Committee's verdict to the District Committee, who pass the report on to the Executive Committee. A member of the Executive is an old friend of the farmer, and it is decided that he and the District Chairman shall call on the farmer and advise him in a friendly way to give up. Let us assume the advice is taken. A keen young tenant is found, and production soon begins to go up again. That is an example of the way in which control may be expected to work in practice. The essentials can be tabulated under the following heads:—

- (i) A thorough, reliable and up-to-date record system;
- (ii) the continuous confirmation or correction of the central records in the light of local knowledge;

¹ See Appendix at the end of this chapter.

(iii) the fullest consultation between the various executive levels;

(iv) the preference for persuasion, education and advice to the big stick of legal compulsion.

Committee control will operate in terms of farms as well as farmers. The limiting factor in increasing production may not be a defect of management, but a physical deficiency or maladjustment. It will be for the County, District and Parish Pool Committees to look into layout problems, farm sizes, the desirability of additional buildings or roads, and similar questions. Whether the land is State-owned or simply, as the first stage will perhaps be, under drastic State control, the Committees will clearly have to keep under continuous review the condition of the capital equipment revealed in periodic surveys of each farm. A useful beginning was made in the Farm Survey of 1940-2. The standard questionnaire issued by the Ministry in 1941, which superseded the 1940 arrangement by which each County decided for itself what questions it wanted answers to, included items on the farmhouse, the buildings, the cottages, the roads, the fences, the drainage, the water and electricity supply, and the lay-out. It is true the answers required were not very specific, generally, indeed, simply a qualitative "good", "fair" or "bad", but they at least provide a basis for further and fuller scrutinies. The difficulty of obtaining building materials and labour made this aspect of the W.A.E.C.s' duties of secondary importance as long as the war was on, but it will clearly become a very prominent one in the near future.

(vii) *The Committee's Officials*

No discussion of the future of "control" would be complete without some reference to the "army of officials", "the new bureaucracy" which N.F.U. malcontents are never tired of abusing. Obviously fewer officials will eventually be required than during the war. The 212 "officers" to which the chairman of the Cumberland W.A.E.C. pleaded guilty in 1943 may well be reduced to 100 or so, though it must be remembered that if the necessity for a large labour and machinery pool or a special rationing department will disappear new staff will be required to supervise the re-equipment of farms that has become so urgent. In any case, many of the war-time officials were recruited in a hurry, and had few technical or personal qualifications for the important posts into which they were pushed *fante de mieux*. Something of a purge will be all to the good. But this admission must not be mistaken for criticism of the W.A.E.C. officials as

officials. Although the limelight has been reserved for the Committee Members, in most counties the real credit for the revival of British agriculture during the war belongs to the officials. The farmer members have played their part, but it has been a subsidiary part. The pace has been set by the technical officers and, loyally but slightly out of breath, the farmers have struggled on behind. It is partly a psychological matter and partly a matter of education. The older generation of English farmers are still individualists. They tend to translate every farming problem into terms of their own farms. They find it extraordinarily difficult to visualize a County problem or even a District problem. When such questions arise, indeed whenever any question of general policy arises, they turn automatically, though sometimes a little resentfully, to the official, who is free from these inhibitions. It is also a matter of education. The senior officers are all college-trained, some of them are University-trained; they have acquired something of the scientific spirit, they have had some organizing experience, they have a wider knowledge of the world and human nature. Owing to the phenomenal rate of their expansion, the Committees have attracted into their service, more or less by accident, able men from many walks of life. To some of these men the war gave opportunities that they had never had before. The Executive Officers, Deputy Executive Officers, and District Officers of the active Committees have been given a reasonable degree of power and responsibility. It is a fact that the officials have seized their opportunities with two hands, whereas on the whole the Committee Members have not. Without accepting the entire gospel of the "managerial revolution", it is clear that the W.A.E.C.s have proved a fruitful breeding-ground for the new type of Civil Servant—energetic, self-confident, full of a special sense of public responsibility. It is these men who will carry through the national plan and the nationalization and re-equipment of the land. The scope and complexity of a Committee's daily activities are so vast now that a Member who only devotes two afternoons a week to its affairs, and in any case is getting rather old, cannot possibly "keep up". Policy is inevitably created by the senior officials, and Committee Members often do not contribute much more than a useful brake on their officers' exuberance and extravagance. It is the case of a "cushion" again. Just as the County Committees, members and officials, serve as a cushion between the Ministry and the farmer, so the Committee members—District and Parish Pool members as well as County Members—are a cushion between the official, with his relentless drive for efficiency, and the imperfect, inarticulate John Bull who still does the actual farming of Britain.

APPENDIX

THE GRADING OF FARMERS: A STATISTICAL METHOD

The first item in the original W.A.E.C. *Farm Survey* (June 1940) was the question "In which of the following categories would the farm be properly placed: (a) farmed well, (b) farmed moderately, (c) farmed badly?" This segregation of each county's farmers into categories A, B and C, and the periodic revision of the classifications, has remained one of the most useful weapons in the W.A.E.C.s, food production armoury and has already survived the termination of hostilities. But a serious weakness is the indefiniteness of the criteria, which vary not only from County to County, but also from District to District. The Ministry of Agriculture's Revised Instructions (November 1941) contained a ruling which may be made the basis of a statistical grading of production that can be used to check or correct the ordinary classification by "general impressions". This is the statement that "it can generally be expected that an A farmer will have obtained from his farm at least 80% of what is regarded as maximum production from that or a similar farm, a B farmer 60-80%, and a C farmer not more than 60%".

The Hampshire Farm Production Recording system can be adapted to give this information. A farmer's milk sales can always be obtained from the Milk Marketing Board, if they are omitted from his Agricultural Returns or have not been supplied to the W.A.E.C. Feeding Stuffs Department; his cereal and pulse crops are returned by the threshing contractor; his purchased concentrates depend on the coupons he receives from his W.A.E.C.; any wet brewers' grains he buys are returned monthly by the brewer, and the number of his livestock are given in the quarterly Agricultural Returns. From these sources a W.A.E.C. can now construct an accurate picture of the yearly production of the great majority of its farms, which can be compared with the "maximum production from that or a similar farm" by adjusting average yields by the percentage of naturally good, fair and bad land on each farm, as determined in the *Farm Survey*. The ratio between actual and optimum production can then be expressed as a percentage, and the farm graded A, B or C according as the percentage is 80 or over, 60 to 80, or under 60. In this way a reliable indication can be obtained of year-to-year production without the farmer being called upon to fill in a single extra form or to answer one additional question.

In most counties some alterations will have to be made to the Hampshire standard yields. Hampshire's figure for wheat, for example, is 18 cwt. per acre, which cannot possibly be considered an optimum or maximum yield. (The 1929-38 average for England and Wales was 17·8 cwt.). As a general basis we can assume that a B farmer—i.e., a farmer with 60-80% production—will usually obtain average yields. The typical B farmer, with 70% production, may therefore be credited *qua* B farmer with the decennial averages recorded for each county in the *Agricultural Statistics*. The next step is to calculate the 100% or optimum yields. Thus in a typical county the 1929-38 yield of wheat is given in the *Agricultural Statistics* as 17·1 cwt. per acre. If 17·1 cwt. is a 70% yield, the 100% yield must be 24·4 cwt. In this county, therefore, we may credit one production acre, according to the Farm Production Recording Scheme, to every 24·4 cwt. of wheat grown. Similarly with milk. In many counties average milk sales are only about 460 gallons per cow per year, which means an optimum yield of not more than 660 gallons. A cow with this yield should not require more than 3 acres of average land, including some temporary leys, to supply all its summer and winter food; 220 gallons are therefore required for each production acre.

Sales of fat stock, eggs and table birds are not at present returned to the W.A.E.C.s. On some farms the absence of this information will invalidate the calculations. On most mixed farms, however, on which milk and cereals provide the greater part of the farm income, it will be found that it is possible to make a reasonable allowance for the other livestock. The simplest method is to take an average of the numbers shown on the *Agricultural Returns* at the beginning and end of each period and convert these into cow-equivalents. The following formula can be used with the *June Returns*: one two-gallon cow = one-and-a-half bulls or in-calf heifers, two other cattle, ten sheep (and lambs), six pigs, fifty poultry, one horse. Each cow-equivalent is then credited with three production acres.

Finally, adjustments must be made for purchased feeding-stuffs and the natural fertility of the farm. A hundred-weight of cattle cake or compounds can generally be taken as the equivalent of the same weight of oats, beans or mixed corn, and the acreage of these crops that would have been required, assuming average yields, to grow the same quantity of feeding-stuffs as was purchased should be deducted from the total of production acres. Generally we can deduct one acre for every fifteen hundredweight coupons issued. Allowances for the natural fertility of the soil can be based quite satisfactorily on the

percentages of good, fair and bad land shown in the survey. Farms shown as 100% fair can be taken as the norm. Farms with 100% good land may then be expected to show 25% more production than the norm, and farms with 100% bad land 25% less production than the norm. The range from the best to the worst land will probably vary from county to county, but it is unlikely to exceed these figures. The total of production acres *before the deduction for purchased feeding-stuffs* can then be raised or reduced, the feeding-stuffs deduction made, and the ratio between the remaining production acres and the actual acreage expressed as a percentage.

An example will make the method clearer. Mr. C. farms 300 acres. For the 1942 harvest he grew 60 acres of wheat, which, when threshed out, yielded him 1,650 cwt. of grain. He had no other cash crops. His milk sales in the period June 1, 1942 to May 31, 1943, amounted to 18,720 gallons. The average numbers of the livestock (other than dairy cows) which he returned between June 1942 and June 1943 were: twelve bulls and in-calf heifers, thirty-seven other cattle, ninety-two sheep and lambs, seventy-one poultry, two horses. He does not keep pigs. In the same period he received coupons for 232 cwt. of concentrates. He does not use wet grains. His farm is recorded in the *Farm Survey* as 10% good land, 90% fair land. He has been consistently graded by the District Committee as an A farmer.

The calculations in this case are as follows:—

- (i) Divide cwt. of wheat threshed by 24.4

$$\frac{16,500}{24.4} = 67.6 \text{ production acres.}$$

- (ii) Divide gallons of milk sold by 220

$$\frac{18,720}{220} = 85.0 \text{ production acres.}$$

- (iii) Multiply other stock (in cow-equivalents) by 3

$$39 \times 3 = 117.0 \text{ production acres.}$$

Total production acres 269.6.

- (iv) Adjust total production acres by percentage of good or bad land

$$269.6 - \frac{2,696 \times 25}{1,000} = 262.9 \text{ production acres.}$$

- (v) Deduct hundredweight coupons received divided by 15

$$262.9 - \frac{232}{15} = 247.4 \text{ production acres.}$$

(vi) Express remaining production acres as percentage of actual total acreage

$$\frac{2,474}{3,000} \times 100 = 82.5\% \text{ production.}$$

As his 1942-3 production was over 80% this farmer was rightly graded A for that year.

Note.—The system described has been used by one W.A.E.C. for a number of years. Ultimately it should be possible for the statistical service to obtain through the Ministry of Food's various agencies details of *all* off-farm sales, which would provide a more reliable check on production than the somewhat "Heath Robinson" procedure outlined here.

CHAPTER NINE

THE OWNERSHIP OF AGRICULTURAL LAND

By F. W. BATESON

(i) *Ownership and Agricultural Use*

IN THE preceding chapters we have discussed (i) British agriculture's place within the world economy, (ii) the farm products we should concentrate on in this country, (iii) the appropriate sizes and organization of the farm units, and (iv) the price mechanism and supervisory bodies needed to ensure that development proceeds on the right lines. Our conclusions can perhaps be summarized as follows:—

(a) The long-term policy must be to *increase* the supply of home-produced liquid milk, eggs, vegetables and fruit, to *maintain* the pre-war production of meat of all kinds, and to *reduce* the war-time cereal and sugar-beet acreages.

(b) This programme need not entail drastic alterations in the sizes of the producing units if specialization within the individual unit is combined with co-operation between the units in each parish or group of parishes.

(c) The necessary changes can be effected partly by economic pressure—by means of guaranteed prices, which need have no relation to the prices charged to consumers—and partly by continuing the war-time powers of County Agricultural Executive Committees while democratizing their structure.

It will have been noticed that nothing has so far been said about

the ownership of the farms and their so-called "permanent equipment"—i.e., the farm houses and cottages, the buildings, hedges and fences, gates, farm roads, drainage, water and electricity supply, etc. The omission has been deliberate. Logically the question of the ownership of land is necessarily subsidiary to the question of the use to which the land is to be put. Every farming system, in other words, tends to have its own appropriate form of land tenure. *Agricultural ownership is the complement of agricultural use.* This proposition is so important—and so often overlooked—that it will be worth while to begin by examining the influence of farming systems on land tenure in this country in the past.

Open-fields Farming.—The combination of limited private ownership of the arable fields with a sort of annual tenancy of the public lot-meadows and extensive common grazing rights, which the open-fields system evolved into, was determined by the technical requirements of a particular kind of farming. If a primitive community's prospect of survival depended on growing as much corn as possible in a limited area—and that was the position in the Middle Ages over the greater part of England—it is difficult to think of a more efficient form of land-tenure. Individual ownership of land—with its overheads of fencing, gates and privately employed labour—would have been wasteful in the case of land that was used only for grazing or mowing. Individual ownership of livestock, on the other hand, but under the care of a herdsman employed jointly, who drove the cattle and sheep on to the "waste" which was the property of the community, was simply the most sensible arrangement under the technical conditions of the time—one that can be applauded on the most hard-headed grounds of agricultural economics.

Similarly the combination of communal grazing of the fallows with owner-occupation of the land actually under crop was an ingenious compromise which obtained the best of both private and public ownership. The actual cultivation and harvesting, with the concurrent responsibility for the maintenance of fertility, remained an individual affair, to which the corollary was private ownership. But in the fallow year, when no individual acts of cultivation normally occurred, private ownership became meaningless; hence the temporary reversion to communal ownership which made it possible to stock the land—to the benefit both of the stock-owners and the "real" owners, who got their land manured and grazed down for nothing.

Capitalist Mixed Farming.—Compared with this complicated and flexible system of land-tenure, the landlord-and-tenant system of the eighteenth and nineteenth centuries was simple to the point

of rigidity. But it, too, had its basis in the technical requirements of the contemporary farming system. The capitalist "mixed" farming, which succeeded and displaced open-fields farming—and which received its classic formulation in the Norfolk four-course rotation and the concomitant folded sheep and yarded bullocks—was a relatively intensive system. And the buildings, hedges, roads and drainage that it necessitated were expensive items. The process of enclosure, by which the scattered arable strips in the open fields were consolidated into single holdings, also cost a lot of money—especially in its final Parliamentary form. And to all this the cost of reclamation had often to be added—that "stubbing", for example, of Thornaby Waste that Tennyson's Northern Farmer, "Old Style", recalled on his death-bed:

Dubbut looök at the waäste: theer warn't not feeäd for a cow:
 Nowt at all but bracken an' 'fuzz, an' looök at it now—
 Warnt worth nowt a haäcre, an' now theer's lots o' feeäd,
 Fourscoor yows upon it an' some of it down in seeäd.

The eventual profits were considerable—often, indeed, astronomic—but the initial outlay was generally a good deal more than the ordinary farmer could lay his hands on. So a special system of agricultural partnership came into being, the landlord providing the fixed capital and the tenant the working capital. Originally, moreover, the partnership was a good deal more than a financial arrangement. For, while the tenant did the day-to-day farming, the landlord, especially if he was a Coke of Norfolk or a Duke of Bedford, arranged the general plan to be followed and contributed the latest refinements of technique. Nevertheless the basis of the system was the prospect of profit. The landlord-and-tenant system was the natural form of tenure under a capitalist system because it maximized the profit from agricultural land, while making it difficult for either member of the partnership to swindle the other.

* * * *

Is it now possible by a process of analogy to deduce the appropriate system of land-tenure for a Socialist agriculture?

The *raison d'être* of the open-fields system was to enable each family to feed itself. This was the end, the means were the mixture of individual and communal arrangements that have been described. Capitalist farming, on the other hand, had as its end the exchange of food surplus to the farmer's family's requirements for money. The means were the intensification of farming methods that was made possible by the landlord's capital and technical knowledge. Similarly, if the end of Socialist farming is the exchange of food *required* by the community for services

to the farmer and his family *rendered* by the community, are not, it may be said, the means the Government grants and guaranteed prices and the national research and advisory officers? Is not the State the modern equivalent of the mediæval village community and the capitalist private landlord? Is not, in other words, the only logical system of land-tenure for a Socialist agriculture the national ownership of all farm land? Is there, indeed, any rational alternative to nationalisation?

(ii) *The Implications of Ownership*

The question that was posed at the end of the preceding section may not have seemed to require an answer. *Prima facie*, if we are to have any Socialist farming at all, the case for nationalization would certainly seem to be overwhelming. Until recently the British Labour Party was unanimously of this opinion. Indeed, the whole of its agricultural policy may be said to have crystallized in the word. The preamble to the Resolution which embodied the Party's pre-war agricultural programme is explicit on this issue:—

"This 1932 Annual Conference of the Labour Party, believing that it is of the utmost importance that the fullest use consistent with sound methods should be made of the land for food production and for the provision of employment under good conditions, whilst at the same time administering with efficiency to the needs of the consumer; and being convinced that this can only be achieved by a comprehensive National Planning of Agriculture, and that only through the National Ownership and Control of the Land can such Planning be effectively ensured, proposes. . . ."

Then follow seven general propositions, of which the first is: "That agricultural land should be brought under national ownership".

The pamphlet *Our Land*, which was issued in 1943, and was intended to expound the Party's post-war policy, was equally emphatic:—

"We desire to emphasise that the necessity for the national ownership of agricultural land is too urgent to leave to a very gradual and piecemeal procedure over a long period of years. Acquisition should be carried out as rapidly and on as large a scale as practically possible."

There is reason to believe, however, that the Committee which drafted *Our Land* was not unanimous on this issue. Recently there has been a good deal of searching of heart about the whole

concept of nationalization, and there has been a tendency to insist more on national control and less on national ownership. This new point of view found expression in *Let Us Face the Future*, the Party's declaration of policy issued just before the 1945 General Election, when, though it was said that Labour "believes in land nationalization and will work towards it", the only agricultural land actually proposed for national ownership was the grossly under-capitalized or mismanaged estates.

It is important to understand what the basis of this change of emphasis in Labour Party policy has been.

It will be necessary to begin by asking what in fact *ownership* means when applied to farm land. It is clear that owning a piece of land is something very different from owning, let us say, a valuable picture. A Madonna by Raphael may be "worth" as much as 2,000 acres of fertile land, but its ownership confers very different privileges. The owner of a Raphael can send it to America and sell it there, if he wishes to, or he can destroy it; whereas land is virtually irremovable and indestructible. Again, a Raphael can be turned into a source of profit as a spectacle, without anybody doing anything to it, but agricultural land only becomes profitable if it is cultivated and stocked, and this, in its turn, implies capital expenditure on buildings, fencing, drainage, etc.

Under analysis it will be found that the private ownership of agricultural land confers only three privileges on its owner:—

(i) the right of access, with its corollary the right to exclude other people's access;

(ii) the right to exploit the soil's natural fertility, with the corollary that the amount of capital invested and the type of exploitation applied, or misapplied, are decided solely by the owner;

(iii) the right to sell or let some or all of these privileges, with the corollary that the owner is the sole judge of the suitability and competence of the purchaser or tenant.

It should be noted, first of all, that it is the corollaries that give these rights their special social importance. In the case of the right of access, for example, it is the fact that we cannot go into the Duke of Omnium's park—not that he can—which is the exacerbant. The high walls and the spiked gates are an example of private privilege in its most naked and indefensible form.

The right to exploit soil fertility is the crucial issue. The analogy here is with fishing or mineral rights. The owner of this special kind of property has inherited or acquired certain natural resources, for the existence of which he is not in any way

responsible, which he is tapping and turning to private profit. It is true that the process adds something to the sum of human food, but it may equally be true that under some other owner, with more energy and ingenuity, considerably more food might be produced. Finally, to grow any food at all, the owner must have been put to a good deal of initial expense and some attendant risks. On the other hand, the form in which this investment was made—i.e., the farming system adopted—may have been misjudged. It is possible, especially if the original equipment is not constantly renovated and kept up to date, that another owner might be more successful in exploiting the natural factors of soil and climate and the human factors of transport, markets and labour.

These are all considerations to which the community's attitude is continually changing. There are, in particular, three stages in the evolution of public opinion on the subject of the agricultural landowner that can be distinguished. In the first or capitalist stage the provision of the essential capital equipment is held to justify completely what is really the private monopoly of a source of natural wealth. The general feeling, indeed, is not merely one of tolerance, but of admiration and congratulation. The basis of this is the recognition that if the private *entrepreneur* had not begun the process of reclamation, the natural wealth would have remained unused and society would have been that much the poorer.

The second stage is reached when the feeling becomes general that the whole community is responsible for the best use being made of the nation's natural resources. This is the point of view that the Labour Party is now stressing:—

“Our good farm lands are part of the wealth of the nation, and that wealth should not be wasted. The land must be farmed, not starved. If a landlord cannot or will not provide proper facilities for his tenant farmer, the State should take over his land at a fair valuation.”¹

It will be seen that it is not the institution of private ownership to which the objection is taken. As Dr. Orwin has put it, land-owning is not yet a crime. What is felt to be criminal is the *misuse* of agricultural land. The nation's responsibility, in other words, is limited to preventing landlords—and exactly the same considerations apply to the tenants—from falling below a certain standard of efficiency. And only the incurably inefficient need actually be dispossessed.

This is the stage in socio-political thinking that the majority

¹ *Let Us Face the Future*, 1945, p. 8.

of the British electorate now seem to have reached. But there is a further stage, which is implicit in the doctrine of nationalization in its extreme form. This is reached when the community as a whole finds it intolerable to allow to any private individual, however efficient he may be, a predominant share, even if it is largely nominal, in sources of wealth which, being natural, are thought of as God-given and for all to share. At this stage in the development of the public conscience private land-owning is thought of as a crime, something morally abhorrent, an ugly survival from a cruder form of society, like the man-trap. It is difficult, however, to believe that this sort of attitude to the agricultural landlord is at all common at the present day. Certainly very few farmers share it, however much they may grumble about their own landlords. A programme of complete and wholesale nationalization, even one excluding owner-occupiers, would have to be carried through in the teeth of the opposition of the great majority of British farmers, and in many areas it might prove impossible to get local agriculturists of any standing to sit on the County and District Committees that will be essential if the transference is to proceed smoothly and equitably.

Until this third stage is reached, therefore, in the evolution of public opinion, each case must be considered on its merits. Socialists may be forgiven a bias towards national ownership, but for the moment the test must be the relative efficiency of private ownership under public control and full public ownership. If the former will *work* as well—or very nearly as well—as the latter, it will be difficult to persuade the electorate that anything can be gained by taking the far more drastic step of nationalization. In English politics the pragmatic sanction is normally decisive. Nationalization may be a “tidier” solution than the combination of private and public control and ownership to which the Labour Party now appears to be committed, but it is less characteristically English. Our habit has been to let the dead branches of the tree of State drop off by themselves—instead of neatly lopping them with the axe. If private ownership is, as it certainly appears to be, a decadent institution, it can be relied on to pass naturally into total inanition. Any danger that it may still be a public nuisance, even in its last phase, can be obviated by an imaginative system of State control, such as the democratized version of the County Agricultural Executive Committees outlined in the preceding chapter.

(iii) *Private Landowners and Public Control*

The Labour Party's decision to concentrate, as far as the immediate future is concerned, on elaborating and democratizing

the war-time system of agricultural controls, and to go slow on nationalization proper, can now be related to the analysis of the rights inherent in private land-ownership that was attempted in the preceding section. In essence the change of policy means a refusal to concede to agricultural landlords the corollaries of the three rights of access, fertility exploitation and sale or lease, without denying the rights themselves. A landlord is still to be allowed access to "his" land, but he must no longer exclude all others from it. Similarly, a landlord can still, either alone or in partnership with his tenant, exploit to the full the soil fertility of his estate, but the final decision as to the type of exploitation to be adopted and the amount and kind of capital to be applied is no longer to be left in his hands. Finally, although a landlord is still able to sell or let off a part or the whole of his farm land, the choice of purchaser or tenant and the amount and conditions of purchase-price or rent can no longer be left entirely to his discretion.

This, however, is to put the new relationship in negative terms. We must now examine the positive connotations of the three corollaries.

The right of access, in the case of agricultural land, is a relatively simple matter. There will be no need, of course, to allow any member of the public to wander at his own sweet will all over every farm. All that is required is legal sanction for the visits of inspection by the properly authorized representatives of the Ministry of Agriculture. Under the Defence Regulations the members and officers of the War Agricultural Executive Committees already possess this right—which is not seriously resented either by landlords or farmers—and it only requires to put these war-time powers on a permanent basis.

The limitation of a landlord's powers of fertility exploitation is a much more complicated problem, and before dealing with it it will be desirable to examine ways and means of controlling the third of the landlord's rights—the right to sell or let his land to the highest bidder, whoever he may be.

It has now become clear that some voice in the selection both of the purchasers of agricultural land and of ingoing tenants is essential in the public interest. Too many landlords have neither the necessary experience and knowledge nor often the desire to select the most qualified applicant from those who wish to buy or rent their land. The situation with regard to the sale of farms and estates is particularly scandalous. The W.A.E.C. have no powers of exclusion as far as purchasers are concerned, though they can prevent the eviction of the sitting tenant if the land has changed hands since September 1939. What is happening can

be seen from the advertisements in the "Farms Wanted" columns of the agricultural weeklies.

A few examples of recent advertisements will be worth quoting. An R.A.F. officer, for instance, is offering up to £10,000 for 150-250 acres with one good house (six or seven bedrooms), preferably with hunting-boxes. A brother officer, but titled, will go to £25,000 for 300-600 acres with commodious attractive residence and affording good agricultural scope and reasonable sporting facilities. Captain P. wants a gentleman's small farm of 80-150 acres with a nice old-fashioned farmhouse with modern conveniences, and will pay the highest price for a suitable farm. W. O. B. H. is ready to give £30,000 for a gentleman's farming estate of 500 acres, provided there is a good residence with six to eight bedrooms. Dr. F. offers £12,000 for a 200-acre mixed residential farm, but it must have distant views and six to ten bedrooms. An official home from abroad will go to £5,000 for a 70-100-acre farm with buildings for a few cows. A City gentleman will pay a really good price for a pleasure farm of 60 acres upwards with a good up-to-date house. A successful Birmingham business man offers £10,000 for a 200-acre mixed farm with a pleasant house of four or five bedrooms. And finally a disabled ex-officer will go to £5,000 for a small gentleman's mixed farm in mild climate.¹

How many of these would-be purchasers have any agricultural qualifications at all? It is clear that their principal interests are the house, the sport and the amenities, and in their anxiety to secure these non-agricultural assets they are prepared to pay a good deal more than the farms would be worth considered purely as farms. Legislation is now required to make the sale of agricultural land invalid unless the proposed purchaser is formally approved by the appropriate County Committee. A maximum selling price must also be laid down. Although the Morris Committee specifically excluded farmsteads from their recommendations, there is a good deal to be said for extending their basic principle of a "ceiling" of 50% over the March 1939 values (as determined by the District Valuer) to agricultural property.

The Agricultural Holdings Act will need amendment on similar lines to protect tenants. In future all notices to quit must be dependent on the County Committees' approval, which should also be obligatory in the case of in-going tenants. Farm rents could perhaps be frozen at 1939 levels, or some other basic figure, and increases only allowed to cover the interest on post-1939 improvements. This would be, in effect, to extend to farms the principle of the Rent Restriction Acts. There is nothing in-

¹ *Farmers Weekly and Farmer and Stock-breeder*, March-May 1945.

equitable in such a proposal, as the higher rents that can now be obtained are due solely to the greater profitability of farming in this country. The landlords can take no credit for this state of affairs, which is entirely owing to the State's action, and they should not be allowed to cash in on it. There would be no objection, of course, to allowing appeals against particular decisions by the G.A.E.C.s to a special tribunal or Rent Court, which could also deal with tenants' applications for reduction of rent.

A related problem—on which the greatest stress is laid by the advocates of total nationalization, like Sir Daniel Hall and Dr. Orwin—is the question of uneconomic farm lay-outs. It is true that many farm boundaries can only be tidied up by detaching outlying portions—which would then be added to other farms, often in different ownership—and by making compensatory additions nearer the buildings from the adjoining farms—which again might belong to different landlords. The *tabula rasa* created by total nationalization would undoubtedly facilitate such replanning, but it is not, as the nationalizers assert, a *sine qua non*. Many farmers already have more than one landlord without finding it a serious embarrassment. All that is needed, in fact, is for the County Committees to be given power to replan farm lay-outs in accordance with the Ministry's general requirements, *irrespective of ownership*, and for the necessary adjustments of rents to be determined by the District Valuers or by arbitration failing agreement.

We can now return to ways and means of controlling the second of the rights that we found to be inherent in landownership—the right to exploit the natural fertility of the soil. The simplest case is the landlord or owner-occupier who deliberately flouts the accepted canons of good estate management. Such men—and there are plenty of them, as the National Farm Survey has made clear—must be bought out compulsorily at a fair valuation. They can be called the “C” landlords. The “B” landlords, whose standards of estate management are about average, are a more difficult problem.

A landlord generally finds himself in the “B” category for one of three reasons—either (a) he does not know what ought to be done to his farms, or (b) he hates the idea of spending more than the absolute minimum that is necessary to keep them presentable, or (c) he has not got and cannot borrow anything to spend. In other words, most “B” landlords are either thickheads, skinflints or paupers. The question therefore arises, when such estates are under consideration, whether the low-interest loans and the advice from farm-building experts that are often suggested as the cure-all will not in nine cases out of ten be the merest waste of public

time and money. The standard objection to low-interest loans to landlords is that sooner or later the tenants are paying a good deal more than the interest on the loan in increased rents—with the result that the landlords get away with the difference. But our proposal to control rents disposes of this objection.¹ The real danger will be the delays and obstructions that the "B" landlord can be guaranteed to put in the County Committee's way. Men who are as ignorant of modern farming technique as most "B" landlords, however willing they may be, find it difficult to understand how essential, for example, a main water supply is on a dairy-farm. Their instinctive reaction to such a suggestion is to refuse it, or at least to whittle it down.

These facts must be faced. It would be unjust and unnecessary to dispossess the ordinary "B" landlord. He does his duty by his farms according to his lights, even if they are the lights of the last century. But the alternative of low-interest loans to carry out a County Committee's orders is equally indefensible. Such an arrangement would not be fair on either the tenant, the County Committee or the taxpayer. Something a good deal quicker, less wasteful and less cumbrous is required. One development that may be expected will be a great increase in the number of tenant's fixtures. With the trend to prefabrication, it is likely that we shall see many more milking-bails, movable sheds and similar structures. There is an opportunity here for experiment and standardization by the State.

But the most effective way to bring a "B" landlord's farms up to modern standards, as far as the permanent equipment is concerned, will be for the County Committee to deal directly with the tenant. If, for example, a water supply is urgently needed for a block of fields, where there is only a stagnant pond, instead of the usual prolonged negotiation with the landlord, all that would then be involved would be agreement between the Committee and the tenant as to the siting of the troughs and the interest to be paid on the capital cost. The Committee would then be responsible for maintenance, and the tenant would pay them directly what would be the equivalent of a second rent—which would attach to the holding, if there was a change of occupier, in the same way as a water rent. The collection of a half-yearly rent would be a simple matter, as most farms are in receipt of some subsidy or grant, which is paid by the County Committee, and

¹ The objection that the compensation that would have to be paid to a landlord, who sank from a "B" to a "C," would be inflated in this way is equally baseless. His compensation would be based upon what the estate was in fact worth to him, *i.e.*, the capital value of the rents he received *minus* his costs of upkeep, etc.

from which a deduction could be made whenever the rent was due.

The "A" landlord would not need to be circumvented in this way. As long, indeed, as the argument is being conducted purely in terms of agricultural efficiency, it is difficult to object to the "A" landlord. On social grounds he is no doubt an anomaly, if not a nuisance. Many "A" landlords, for example, trade on the respect they have earned from their tenants by soliciting their votes at Parliamentary and County Council elections. They become J.P.s and School Managers almost automatically. The better, indeed, they manage their estates, the greater the power they wield. And there is no doubt that many of them are corrupted by it. Their arrogant, impassive faces, as they ride through the villages, have to be seen to be believed.

This, however, is a long-term problem. The power of the squirearchy and the rule of the "big house" are being undermined by the slow economic sapping of Death Duties and upkeep costs. By itself, nationalization would not necessarily affect their position. The short-term problem may well be to establish objective standards for the grading of landlords as "A", "B" or "C". There are the same dangers of local favouritism and of variations between one County or District and another as in the parallel case of grading farmers. There is, however, already in existence the basis for a standard system of assessing the degree to which a landlord is maintaining the main items of permanent equipment on his farms in the findings of the National Farm Survey of 1941-43. It will be relatively simple for a County Committee to keep this information up to date. Except for water supply and electricity, the Farm Survey's inquiries were very general—farm houses, buildings, cottages, hedges and fences, farm roads and drainage were each classified as either good, fair or bad—but the information is normally quite sufficient to determine the category into which the landlords should be placed. A system of marks—by which, for example, a good house or building gets three marks, a moderate one one mark and a bad one no marks, or good farm roads two marks and electricity to the house one mark, etc.—can be worked out, and a landlord's grading would then be determined by the total marks obtained by all his farms calculated as a percentage of the possible score. Owing to the impossibility of drawing a hard-and-fast line between the "A" landlord and the "B" landlord on the one hand, and on the other between the "B" and the "C," some subdivision in the gradings would be necessary—e.g., "A +", "A" and "A —", and similarly for "B" and "C". An annual review of the gradings—based upon annual inspections or reports—would undoubtedly

help to keep all landlords up to scratch, as well as assuring that the flagrant cases were never overlooked.

The grading of landlords by democratically elected Parish and District Committees—who would make their *recommendations* to the County Committee—may be considered the first step in democratizing landownership. It would initiate a process that may be expected ultimately to transfer to public ownership all the agricultural land in the country—which would then be administered by the local agriculturists themselves, the farmers and farm-workers of the neighbourhood, through their representatives on the Committees. In a sense, therefore, every farmer will in time become his own landlord. But this diffused local ownership will be a very different thing from the owner-occupiers of today. This is not the place to argue the case against a revival of yeoman farming. There is no danger of such a development in England, because the ordinary commercial farmer is as convinced as ever he was that “a bad landlord is better than none”. The recent increase in the proportion of farm land owned by the occupier is mainly due *either* to the occupier being virtually compelled to buy his farm to prevent its being sold over his head, *or* to the townsman setting up as a “hobby farmer”. The real objection to owner-occupation is that it tends to compel the son to follow the father, irrespective of his own preferences and talents. Farming suffers enough already from its hereditary character. The necessary increases in efficiency depend as much as anything on making agriculture *une carrière ouverte aux talents*. Until recently the “drift from the land” was not compensated by a complementary intake into farming of townsmen who found themselves out of place in industry. But there is evidence that a healthy two-way traffic between town and country is now coming into being. Both parties stand to gain by the change—provided its character is understood and the State can provide the proper safeguards.

The problems created by the interaction between the townsman and the countryman, and their respective attitudes to land, must now be considered in more detail.

(iv) *Competing Land Uses*

Agriculture is only one of the human uses to which land can be put. Almost every field in England might be either (i) built on, (ii) used as a road, car-park or aerodrome, (iii) planted with trees, (iv) shot or hunted over, (v) turned into a cricket or football field, or (vi) camped on or hiked over. Uses (i), (ii) and (iii) are incompatible with agriculture. Uses (iv), (v) and (vi) need not

interfere with an extensive agriculture, though they will hardly ever be compatible with a really intensive farming system.

The fundamental problem is whether we are to treat the English countryside *primarily* (a) as a playground for the towns, or (b) as the working capital of an efficient agricultural industry. Agriculturists are too apt to assume that the second alternative is what is exclusively required in the national interest. It is clear, however, that zoning for all time for purely agricultural uses *all* the land at present used for farming would be a social impossibility. The relevant facts are summarized in the following table, which refers to the year 1937:

*Land Utilization in England and Wales (1937)*¹

	Acres.	Percentage of total.	Population.	Percentage of total.
Area in agricultural production . . .	30,486,000	82.1	—	—
Open land of potential agricultural value (commons, playing-fields, etc.) . . .	409,000	1.1	2,250,000	5.5
Woodlands . . .	2,042,000	5.5	—	—
Buildings, roads, railways, sewerage works, cemeteries, industrial waste heaps, etc. . .	4,196,000	11.3	39,000,000	94.5
Totals . . .	37,133,000	100.0	41,250,000	100.0

The 2½ million people who are shown as living in the countryside in 1937 does not include the 3½ to 4 million living in villages or other nucleated settlements in non-urban areas. But inhabitants of such places tend to have divided loyalties. Many of them, it is true, are farmers or farm-workers, who look to the land as their livelihood, but the majority of the residents in English villages have only indirect or secondary connections with agriculture, and look upon the fields of the neighbourhood as their rightful territory for mushrooms and blackberry picking, walks, the collection of firewood and for rabbit shooting. Similarly, although most of the 2½ millions who live in the open countryside are farmers or farm-workers, a certain number will be found to be retired business men or week-enders—the advance guard of suburbia. Altogether the agriculturists who live in villages and

¹ Based upon the Report of the Scott Committee on Land Utilization in Rural Areas (1942).

the non-agriculturists who live in the open country must nearly cancel each other out. The broad picture, therefore, is of (i) a high degree of concentration of the population in the towns and villages, 94.5% of the total population occupying 11.3% of the surface-area of England and Wales, and (ii) a sparsely inhabited countryside with 5.5% of the population in occupation of 88.7% of the land, practically all of which is farmland.

England is, in fact, not only the most densely populated country in the world—with an average in 1939 of 766 people per square mile, as against 702 in Belgium, 633 in Holland, 347 in Germany, 197 in France and 43 in the U.S.A.—but it is also, as far as can be ascertained, the country with the greatest difference in the relative density of the populations of town and country. On the one hand, we have the most overcrowded towns in the world; on the other hand, and in the immediate vicinity of the towns, we have a countryside which is relatively under-populated. To the English townsman coming into the English countryside for the first time the impression is one of utter solitude. If he stops his car between two villages and takes an inventory of the panorama, the only houses that he will be able to record in nine cases out of ten will be two or three farmsteads, a cottage or two, and perhaps one mansion. Otherwise, wherever his eye turns, there is not a sign of human habitation. Human beings are equally scarce. As he turns his binoculars on to the fields, he may complete the whole circuit of grass, corn and roots, hedges and stacks, spinneys and streams without lighting on a single human form. No wonder he comes to the conclusion that it cannot matter very much if he leaves a gate unfastened or a gap in a hedge. No wonder it never crosses his mind that by buying a field to build on out of the desolation he can possibly be doing any harm to anybody.

This contrast between the over-population of the towns and the under-population of the countryside is a political fact of the first importance. It creates within our own boundaries tensions similar to those between "have" and "have not" countries in the international sphere. Clearly it will not be possible to coop indefinitely within the existing towns and suburbs the teeming urban millions. Their claim to a *lebensraum* will not be disputed by Socialists, but it is equally important for agriculturists and, indeed, the whole Fraternity of the Rural Bias—if that is not too impolite a term for such dignified bodies as the National Trust and the Council for the Preservation of Rural England—to realize that there is no prospect whatever of the townsman allowing himself to be excluded from the countryside. It may be possible to educate the picnicker not to trample the corn or leave litter about, it is just conceivable that the hikers and campers can

be diverted from certain restricted areas altogether, but that is the most that it would be wise to count on. Improved transport, a shorter working week, good wages and a more adventurous philosophy of life will soon be releasing a flood of urban tourists into the countryside, whose cumulative impact will be as irresistible as a tidal wave's. To talk of "preserving" the country is unrealistic. The problem is to see that the new countryside, which is now in process of formation, is a place where town and country can meet, make friends and learn to respect each other's interests.

In the pre-war period urban influences were often inimical to agriculture. In the open countryside their general tendency was to encourage extensive systems of farming. Instead of looking after the pigs and poultry, the farmer's wife began to take in summer visitors. The farmer sold his hay and his straw to members of the local hunt. The voracity of foxes compelled poultry-farmers to keep their flocks in small wired enclosures, which soon became a breeding-ground of disease. Many landlords, finding the shooting rights more valuable than farm rents, turned a blind eye to the damage that game and rabbits inflicted upon their tenants' crops. And in the same way economic pressure was compelling the farm-workers to desert the farms and become gardeners and grooms for the townsmen who were settling in the country in increasing numbers. The result was under-staffed farms, derelict fields and "dog-and-stick" farming.

Many farmers are afraid that the next few years will bring a return to this sort of thing. If agriculture is to be unplanned, it is more than possible that they are right. But it is unnecessarily defeatist to assume that the process of decline is inevitable. By taking thought, it should be possible to arrange that the reasonable access, to which the townsman is entitled—and which he will in any case demand—shall not be incompatible with the efficient agriculture which the countryman demands—and which the townsman needs in order to be properly fed.

(v) *The Planning of Land Use*

The corollary of a national food plan is a national land plan. If, for example, the Blankshire Agricultural Executive Committee is to ensure that the extra 2 million gallons of milk, which is Blankshire's "quota" (as determined by the Ministry of Agriculture), are in fact produced, one of the factors that it will need to take into account is the availability of additional land suitable for dairying. The change of farming system—whether it is from non-dairying to dairying or from extensive to intensive dairy-farming—necessarily involves a change of land use. In

the past such changes of land use have been dictated almost entirely by individual convenience. The history of a typical farm during the last hundred years has been one of a series of changes of policy, the emphasis shifting with price-fluctuations or a new tenant from wheat to barley, cereals to beef, beef to milk and back again. Alternatively, the farm may have gone out of commercial agricultural use altogether, becoming a "pleasure farm" or perhaps a deer park.

It is obvious that such unco-ordinated changes of use cannot have been to the ultimate interest either of the individual holding or of the area considered as a unit. Expensive capital equipment was wasted. Even to-day many elaborate cowsheds can be found on farms where milk is not now being produced. And the fear of similar changes has naturally deterred landlords from making other improvements that were often needed. Water undertakings have reasoned in the same way: if there was no guarantee that the farms might not change over to a system of farming which required little or no water, why should they bring their mains into the district?

In principle the case for the planning of land use is incontrovertible. Its application in detail, however, is extraordinarily difficult. The irregularities of the English land-surface, with the differences of soil-type, drainage, slope and aspect that almost every field exhibits, make it impossible to say, "This area ought to be exclusively devoted to such-and-such a farming type". All that it is possible to demand, on technical grounds, is that each area should possess a *predominant* farming system, and that as far as possible the farms unsuited to this norm should be encouraged to dovetail their systems into the area's major system at one or more points. Thus in an area where the predominant system is milk production from Attested Herds of Friesian cattle, the non-milk-selling farms might grow feeding-stuffs suitable for dairy cows or else rear replacements for the herds.

The planning that such a proposal involves is less than might be expected. To a considerable degree British agriculture is already specialized, with certain areas concentrating on vegetables and soft fruit, and others on other fruit, potatoes, hops, barley, sugar-beet or wheat. Similarly, the livestock industries are already divided, to a large extent, into breeding and fattening areas. The Ministry of Agriculture's "Types of Farming" map was able to divide the whole of the agricultural land of Great Britain, as at June 1939, into large or small areas primarily devoted to one of seventeen different farming systems. These seventeen systems—five consisting of pasture types, six of arable types and six of intermediate types—provide the basis, obtained by a

process of more or less "natural" selection, upon which a planned system of agricultural land use may eventually be built.

A planned agriculture, however tentative the details may be, is the indispensable preliminary to a planned countryside. The immediate danger is a scramble (i) for building land, (ii) for amenity areas such as the Green Belts and National Parks, and (iii) for pleasure farms for the well-to-do. In each case some loss as far as optimum agricultural use is concerned is inevitable. In terms of acreage, of course, farm land has been continuously shrinking in England and Wales since 1889—when there were 4 million more acres under cultivation than today—and this process is certain to continue. What is important in the national interest is that the land alienated from agriculture should not be entirely determined, as it was before the war, by non-agricultural considerations. Other things being equal—e.g., as far as suitability for building goes—obviously the site of least agricultural value should be preferred. This common-sense conclusion has been amplified by the Scott Committee, whose *Report on Land Utilization in Rural Areas* (1942), however wrong-headed in many ways, is an indispensable document. But the decision that this site is, as farm land, more valuable than that, which must be the basis of the County Agricultural Executive Committee's recommendation to the Planning Authority, is not always as easy to reach as it might seem. In an unplanned economy "good" land and "bad" land are almost meaningless terms. All land is "good", whatever its natural fertility, if there is an expanding and effective demand for home-grown food. And similarly the most fertile land is "bad" if good food can be imported more cheaply than it can be grown here.

With an agricultural plan, on the other hand, the order of priorities at once becomes apparent. In an area scheduled as predominantly milk-producing, for example, the first farms to be surrendered to the builder will clearly be those not suited or equipped for milk production. And similar considerations can also operate on the national scale. If less English wheat and sugar-beet are needed, let us open up East Anglia to the satellite town, the light industry, the pleasure-farmer and the Nature reserve. By diverting these potential competitors from milk-producing land we shall at the same time make possible the increased gallonage of milk that is another part of the national plan.

It will not be necessary to enter into the finer points of town and country planning. In an industrial country the position of agriculture is necessarily that of the residuary legatee. The first claims upon our land-surface must be those of factory-sites, roads

and housing estates, with their secondary growth of private gardens and public parks, schools, cemeteries, sports grounds, dog-tracks and golf-clubs. To attempt, as the Scott Committee recommend, to *make things difficult* for industry—e.g., by excluding it from the villages, or burdening it with an onus of proof that each development is in the national interest—is a short-sighted way of helping farming, which Socialists must resist. All that is really essential is (i) that all changes of land use, with or without change of occupier, should require the sanction of a public planning authority, (ii) that the Ministry of Agriculture is represented on the national planning board, and (iii) that the County Agricultural Executive Committees obtain a place on the local planning committees. This would not mean that the representatives of farming would be able to *reduce* the total area of agricultural land required by industry for one or other purpose. It would, however, ensure that the losses occur where they hurt least. During the war the County Committees have acquired much useful experience in negotiating with the Service Ministries who wished to requisition land for aerodromes, bombing or rifle-ranges, training areas, etc., and the principle has been established that, if two sites are equally, or almost equally, possible, the decisive criterion should be the potential loss to food production. This war-time experience can now be made the basis of a long-term *entente* between town and country.

But the pre-requisite is a planned agriculture. In other words, a Socialist agriculture.

